The Lettsomian Lectures

ON

THE CEREBELLUM AND ITS AFFECTIONS.

DELIVERED BEFORE THE MEDICAL SOCIETY OF LONDON,

BY

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LECTURE I.

MR. PRESIDENT AND GENTLEMEN,—It has been my good fortune to be called on to acknowledge with gratitude many compliments from this society, but no honour that I have hitherto received at your hands can compare to that for which your council has seen fit to select me this evening. I can conceive of no greater privilege than to be chosen as the society's representative to do honour to its great benefactor Lettsom, in memory of whom these lectures were founded.

In acknowledging my debt to you, I cannot forget that which I owe to my late colleague, Dr. C. E. Beevor, who twenty years ago induced me to seek admission to this society as one of its Fellows, and who, three years ago, fulfilled the task which I am about to attempt, in a manner that may well be emulated by succeeding generations of Lettsomian lecturers.

So little was known of the cerebellum in Lettsom's time that it is not surprising that there is no evidence from his published writings that disorders of this organ engaged his attention. It is nevertheless evident, both from his medical publications and from his correspondence, that he took an interest in affections of the nervous system, although he made no more special study of these diseases than is the wont of general physicians.

I make no apology for asking your attention to a few fundamental points in the anatomy of the cerebellum and its connexions, without a clear knowledge of which it would be impossible to appreciate the significance of much that will have to be said of the functions of the organ and of the disorder of these functions by disease.

STRUCTURE.

The student of neurology cannot fail to be struck by the peculiar and distinctive appearance presented by the cerebellum when contrasted with the cerebrum. Distinctive as is its general conformation, made up as it is of a middle lobe and two lateral ones, even more distinctive is the way in which its convolutions are arranged. Like the cerebrum, a grey mantle or cortex encloses white substance, in the midst of which are islands of grey matter, which constitute the nuclei of the cerebellum, but the arrangement of the surface grey matter is altogether different from anything seen in the cerebrum. The external surface has a laminated appearance owing to its being divided up by a series of deep curved fissures, which are arranged transverely and situated close to each other, while separation of the folia into which the surface of the organ is thus divided reveals others hitherto concealed. Section of the cortex presents a dendritic appearance, the *arbor vitae cerebelli*, which is due to the fact that each folia is in turn composed of a series of secondary folia, which in their turn are composed of tertiary ones.

Nuclei.

The most striking of the islets of grey matter revealed by section through the organ is the dentate nucleus (Fig. 1), not only because of its large size, but also because of its distinctive appearance, resembling as it does so closely in its outline and general conformation the nucleus of the inferior olive in the pons. The grey matter of which this nucleus is composed forms a wavy band which encloses white matter, which it shuts off from the surrounding white matter of the cerebellum at all parts except one, where the band of grey matter is interrupted on the mesial side of the nucleus, and allows of free intercommunication between the white matter inside and that outside the nucleus. The fibres which thus pass from the interior of the nucleus through this part of it, which is known as the hilus, constitute the nerve fibres which form the superior cerebellar peduncle, which connects the cerebellum with the mid and fore brain. There are, however, other islets of grey matter situated in the depth of the cerebellum the importance of which cannot be too strongly insisted on, for although their apparently small size and lack of peculiarity of conformation, as seen on vertical transverse section, may lead to the belief that they are not of much significance, in reality there can be no doubt that they subserve most important functions. There are three nuclei of the kind on each side of the middle line—the nucleus emboliformis, situated on the mesial aspect of and next to the nucleus dentatus; while in the inferior vermis are situated the nucleus globosus, still more mesially placed, and the tegmental or roof nucleus, also known as the nucleus fastigii, close to the middle line, but more ventrally situated, and occupying the anterior part of the vermis.

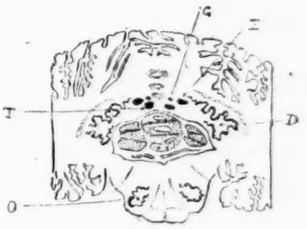

Fig. 1.—Nuclei of cerebellum (Stilling). O, Inferior olive. D, Dentate nucleus. E, Nucleus emboliformis. G, Nucleus globosus. T, Tegmental nucleus.

Peduncles.

The superior cerebellar peduncle, which has its origin in the dentate nucleus, is the only purely efferent tract from the cerebellum, and passes forward to the mid-brain to reach the red nucleus, to which and to the oculo-motor nuclei collaterals are given off, while others of its fibres pass on to terminate in the optic thalamus, and, according to van Gehuchten, some cross the middle line to end in the thalamus of the opposite side. It is important that we should remember in this connexion that nerve fibres pass from the thalamus to the cerebral cortex, and that a communication is thus established between the cortex of one cerebral hemisphere and the opposite half of the cerebellum and its nuclei. Another fact that must not be lost sight of is that from the red nucleus, to which so many of the fibres of the superior cerebellar peduncle pass, there emanate fibres which constitute the bundle of Monakow or rubro-spinal tract, which crosses the middle line and passes down the lateral column of the medulla oblongata and spinal cord (Fig. 2). There is thus established an indirect communication between one half of the cerebellum and the same side of the spinal cord—an interesting fact that will have to be further emphasized later when we come to consider other connexions between the cerebellum and cord, for this homolateral tendency becomes strikingly evident in contrast to the well-known crossed connexion which exists between the cerebrum and spinal cord.

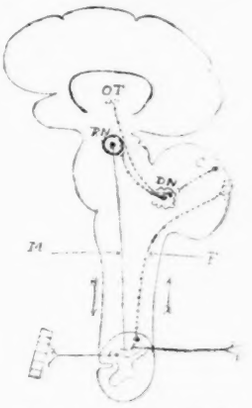

Fig. 2.—OT, Optic thalamus. RN, Red nucleus. DN, Dentate nucleus. C, Cerebellum. F, Afferent cerebellar tract (Flechsig). M, Rubro-spinal tract (Monakow's bundle).

The middle peduncle of the cerebellum has its origin in the nuclei pontis, and, forming the transverse fibres of the pons, passes across the middle line to the opposite cerebellar hemisphere. There is thus established another indirect connexion between the cerebrum and cerebellum through the cerebro-pontine fibres, which, having their origin in the brain, terminate in the pons by arborizations around the cells of the nuclei pontis. It has hitherto been supposed that this tract takes its origin in the excito-motor cortex of the Rolandic region and the adjoining frontal lobe; but Sir Victor Horsley and Dr. R. H. Clarke are of opinion that this point requires further consideration, and adduce the following reasons for regarding the

temporal rather than the frontal lobe of the brain as the most important part which is associated with the cerebellum through the pontine nuclei. They point to the fact that it is now generally accepted that Déjerine is correct in his opinion that a temporo-pontine bundle exists which takes origin in the middle third of the temporal lobe, occupies the outer fifth of the cerebral peduncle, and terminates in the pons, and as the temporal pallium is the seat of projection of the auditory paths, they consider that it is not unreasonable to regard it, rather than the excito-motor gyri, as being also the area in which the vestibular sensations are represented. They further point to the fact that their view receives support from Charles K. Mill's conception of the subject, for he figures "equilibratory" and "orientation" in the posterior third of the second and third gyri of the temporal lobe.

The inferior peduncle—otherwise commonly known as the restiform body—is peculiarly interesting in virtue of its complexity of composition, and because of the important connexions which it establishes between the cerebellum and other parts, notably the labyrinth. Like the middle peduncle, it is composed—in the main, at any rate—of afferent fibres, which, having their origin elsewhere, terminate in the cerebellum. Some of these (bundle of Flechsig) are derived from the cells of Clarke's column in the spinal cord, and end in the grey matter of the cortex of the forepart of the vermis. Others are derived from the olivary nucleus of the medulla oblongata, cross the middle line, and enter the inferior peduncle of the opposite side, to terminate in all parts of the cerebellar cortex. Yet others are derived from the cells of the reticular formation of both sides of the pons and the lateral nucleus of the medulla, while there remain those which come from the vestibular nerve, and from the nuclei in which this nerve ends. These pass to the tegmental or roof nuclei of the cerebellum.

Paracerebellar Nuclei.

In the grey matter on the inner side of the inferior peduncle certain groups of nerve cells constitute two important nuclei, that of Deiters and of Bechterew (Fig. 3). Fibres pass from the cerebellum to both of these nuclei, which form a means of communication between the organ and other parts of the central nervous system. From Deiters's nucleus fibres pass down the ventro-lateral region of the spinal cord on the homolateral side, forming a well-defined tract, which can be traced to the lowest region of the cord; while others pass forwards in the posterior longitudinal bundles to reach the oculo-motor nuclei. From Bechterew's nucleus and the neighbouring grey matter fibres pass in the posterior longitudinal bundles of the same and the opposite sides, and accordingly bring this nucleus into communication with the oculo-motor nuclei; while others pass dorsalwards to the spinal cord, and thus connect the nucleus with the ventral horns.

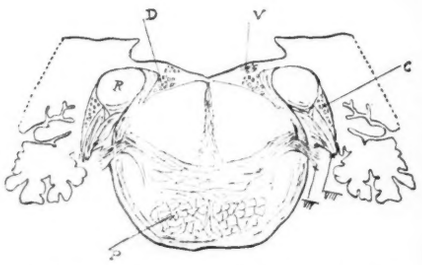

Fig. 3.—Transverse section of pons (modified from Schäfer). P, Pyramid. R, Restiform body. D, Deiters's nucleus. V, Nucleus of vestibular division. C, Ventral nucleus of cochlear nerve. VII, Facial nerve. VIII, Auditory nerve.

CONNEXIONS.

Horsley and Clarke, as a result of localized destructive lesions of the cerebellum, found that no fibres derived from the cortex of the cerebellum pass into any of the peduncles, and that all of the fibres which leave the organ through its peduncles have their origin in one or other of the nuclei. They found, moreover, that the cortex is related to the homolateral nuclei, and they have not been able to trace any cortico-nuclear fibres which cross the middle line. The roof nucleus is regarded by them as probably the most important of the nuclei for associating the corticofugal impulses, for they find that it is connected with practically all parts of the cerebellar cortex. This nucleus has long been known to be intimately related to the vestibular nuclei, for the observations of Kölliker, Edinger, and Ramon y Cajal have made this evident; and Horsley and Clarke, after very limited lesions of the nucleus, have been able to trace degenerate fibres from it over the superior cerebellar peduncle to the vestibular nuclei and *locus coeruleus*. These observers find that the nucleus globosus is not in any way related to the lateral lobe or flocculus, but that it essentially appertains to the vermis system. The dentate nucleus, on the other hand, they find has very little to do with the vermis, and no connexions with the flocculus and paraflocculus, but is intimately associated with the pennate lobules.

Cerebro-spinal System.

Before calling your attention to certain other connexions of the cerebellum it is necessary for me to remind you briefly of the afferent and efferent connexions between the spinal cord and cerebrum (Fig. 4). Some of the fibres derived from posterior spinal nerve roots cross in the posterior commissure, and then pass up in the dorsal tracts and grey matter to terminate in the nuclei of Goll and Burdach in the medulla. From these nuclei fibres are derived which cross the middle line and proceed brainwards as the fillet, which terminates in the optic thalamus, from which fibres emanate which pass to the sensori-motor cortex of the Rolandic region of the brain. The neurons of the sensori-motor area give origin to fibres which pass through the internal capsule, crus, and pons, and, having reached the lower end of the medulla, the bulk of them cross the middle line and pass down the opposite (contralateral) pyramidal tract, to terminate at different levels, and convey impulses which reach the muscles through the neurons of the ventral horns, whose axons constitute the peripheral motor nerves. Thus, afferent impressions which enter the spinal cord can pass to the cerebral cortex, and efferent impulses, evoked in the cortex, can reach the muscles without reference to the cerebellum in either case.

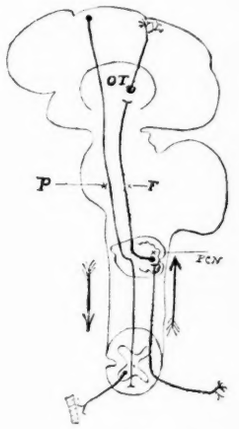

Fig. 4.—Cerebro-spinal system. OT, Optic thalamus. P, Pyramid. F, Fillet. PCN, Posterior column nuclei.

Cerebello-spinal System.

There are, however, other afferent impulses which can only reach the cerebrum by way of the cerebellum, and an indirect motor path exists from the cerebrum which is equally dependent on its connexions with the cerebellum for the transference of impulses from the cerebrum to the spinal centres, and thence to the muscles. In the dorsal sensory nerve roots are fibres which convey afferent impressions from the muscles, joints, and deeper structures, as opposed to the skin, some of which pass to Clarke's column of cells, from which is derived the dorsal or direct cerebellar tract; while others cross in the anterior commissure, and pass upwards in the ventro-lateral region of the cord, constituting the ventral or crossed cerebellar tract of Gowers. Both of these tracts pass to the cerebellum to terminate in the cortex of the organ, the former, as we have already seen, by way of the inferior peduncle, while the latter courses along the superior peduncle to end in the cortex of the middle lobe. From the cortex fibres pass to the nuclei, and from the dentate nucleus fibres are derived which leave the organ by way of the superior peduncle, to reach the red nucleus and optic thalamus of the opposite side, and through the thalamus connect the cerebellum with the cerebral cortex. From the cortex of the cerebrum, in addition to the direct motor path which has already been described, an indirect one may be traced, which passes to the pons, and thence by way of the middle peduncle of the cerebellum to the cortex of the opposite side of the organ, from which fibres pass to the

roof nuclei, from which others arise which go to the nucleus of Deiters, which in its turn sends fibres down the ventro-lateral region of the spinal cord to the ventral horns. It thus becomes evident that afferent impressions can reach the cerebrum by way of the cerebellum, and that efferent impulses may similarly reach the muscles from the cerebrum by way of the cerebellum. Moreover, this system provides a means by which afferent stimuli can evoke efferent impulses from the cerebellum without reference to the cerebrum (Fig. 5). Another indirect motor path is probably established through the connexion which exists between the inferior olive and the cerebellum, for fibres derived from neurons of the cerebral cortex have been traced to the inferior olive (van Gehuchten).

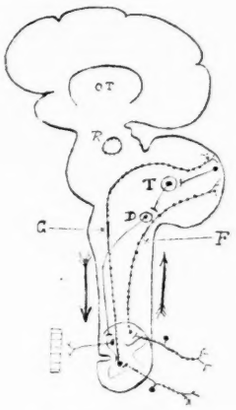

Fig. 5.—Cerebello-spinal system. T, Tegumental nucleus. D, Deiters's nucleus. F, Flechsig's tract. G, Gowers's tract. R, Red nucleus. OT, Optic thalamus.

The significance of all this is best appreciated when we recall the fact that an animal deprived of its cerebrum retains the power of standing and of walking. It is thus clear that afferent impressions to the cerebellum and red nucleus may evoke efferent impressions which are capable of maintaining station and locomotion without the co-operation of the cerebrum, and there is evidence to show that the afferent impressions concerned are derived from the deeper structures, such as the muscles and joints.

The Labyrinth.

The most important peripheral sense organ from which the cerebellum receives afferent impressions, however, is the labyrinth, and the path by which they are conducted is the vestibular nerve. Taking origin in the ganglion vestibulare, and supplying its peripheral filaments to the semicircular canals, it enters the pons between the ascending root of the fifth nerve and restiform body, and among the important connexions which it forms are included the nucleus of Deiters and that of Bechterew, which we have already seen are intimately connected with the cerebellum. Besides this indirect connexion with the cerebellum Ramon y Cajal considers that some of its fibres pass directly to the roof nucleus of the organ and others to the cortex of the lateral lobe. It also forms connexions with the mesial vestibular nucleus and nuclei of the pons, which permits of another connexion with the cerebellum through the internal arcuate fibres. The connexions of the vestibular nerve with Deiters's and Bechterew's nuclei permit of an indirect communication with the ocular nuclei, but in addition to this a direct path has been traced from the nerve to the sixth nucleus. Afferent impressions from the labyrinth can thus evoke efferent impulses from the cerebellum in the same way as results from the afferent impressions which reach the organ from the muscles and joints.

The Proprioceptive System.

How intimate is the relation of the labyrinth to the cerebellum, and how important is the part which it plays in maintaining the equilibrium of the body has long been recognized, but cannot be better illustrated than by reference to Sherrington's conception of their mode of operation.

As sensation does not accrue as a result of all peripheral stimuli which evoke a central (reflex) reaction, Sherrington adopts "receptor" as the neutral term to apply to the peripheral apparatus which receives the stimulation. He points out that there are two main fields of distribution of the receptor organs—a *surface field*, which is situated at the surface layer of the organism, both external and internal, which he speaks of as exteroceptive and interoceptive respectively; and a *deep field*, which is situated in the tissues of the organism beneath the surface layer, which he designates proprioceptive. The stimulations which occur in the deep field are traceable to actions of the organism itself, as opposed to stimuli received from without. Hence the term "proprioceptor," which he has applied to the receptors of these stimuli, which are brought about largely, as he says, through the agency of mass, with its mechanical consequences of weight and inertia, and also largely through mechanical strains and alterations of pressure, resulting from contractions and relaxations of muscles. Among the functions subserved by the receptors of the proprioceptive, or deep field, is that of maintaining a state of tonic reaction in the skeletal muscles, which Sherrington regards as concerned with the maintenance of attitude. The receptor organs are found to be more highly developed and of greater importance as the head segments are reached, as contrasted with those at the caudal end of the animal, as is well illustrated by the organs of sight, hearing, and smell in the exteroceptive field, and as illustrated by the labyrinth, which belongs to the proprioceptive field, in that the active agent which excites the receptor in the labyrinth is a portion of the organism itself, and not a stimulus derived directly from the environment, such as obtains in the case of the organs of sight, hearing, and smell. In accordance with what obtains in the case of the proprioceptors of all other segments of the organism, however, although the receptors of the labyrinth are stimulated by the animal itself, this is secondary to the action of the environment on the exteroceptors, which evokes a movement of the animal, which in its turn causes the stimulation of the proprioceptors of the labyrinth. As the segment to which the labyrinth belongs is commonly rigidly connected with the other segments which compose the head, posture and movement of the head cause stimulation of the labyrinth. Sherrington further points out that whereas the proprioceptor of a limb has practically only an influence on the reflex maintenance of posture in that limb, the proprioceptive organ of the head (labyrinth) has not only an influence upon the position of the head itself, including the eyeballs, but in addition exerts its influence on the limbs and trunk. Indeed, all segments of the body are embraced within this field of reflex action. Moreover, whereas the proprioceptors of the limbs give them reflex attitudes which are chiefly concerned with their relation to other segments of the body, the proprioceptors of the head (labyrinth) give an animal a reflex attitude in relation to the external world and gravitation. In common with all reflex systems in which there is a tendency for the nerve centres to fall under the dominating influence of one of their own number, which is so situated as to receive the afferent paths from the group of receptors of the system that are pre-eminently important, the whole reflex mechanism of the proprioceptive system becomes focussed upon the main centre belonging to that group. As the labyrinth is the most important receptor in this system, it follows that the central mechanism of the proprioceptive system is built up chiefly in the hind brain, to which the afferent vestibular nerves pass from the labyrinth. To this region of the hind brain internuncial paths from many proprioceptive centres of other segments converge, which with those of the labyrinth form an organ of confluence of great complexity, which is the cerebellum. This increases in size as it is traced through the animal kingdom, becoming larger as the range and complexity of the movements of the animal become greater. The cerebellum is thus, according to Sherrington, the head ganglion of the proprioceptive system, and it accordingly follows that it is the main ganglion of the system.

It is impossible for me to leave this part of my subject without paying a tribute to my colleague, Mr. Sidney Scott, whose experimental researches on the labyrinth have yielded such brilliant results, but deal with a part of the subject not comprised in this lecture, and which time does not permit me to include in our deliberations.

FUNCTIONS OF THE CEREBELLUM.

To experimental researches we are chiefly indebted for the precise information which we now possess in regard to the important connexions of the cerebellum to which your attention has been called, and it is especially to the discovery of Waller that we owe so much in this respect, for his observation that a nerve degenerates when it is severed from the cells from which it takes its origin has enabled us to determine not only what the connexions of

the cerebellum are, but where the tracts take their origin, and where they terminate, which pass from the cerebellum to other parts of the central nervous system, and which take their origin in other parts and terminate in the cerebellum. It would be impossible to overrate either the importance of Waller's discovery or the use that has been made of it by Marchi, who, by the introduction of a special method of treating nerve tissues so as to reveal the degeneration which results when the axons are severed from the cell bodies of the neurons from which they are derived, has enabled an army of neurological workers to investigate not only the connexions of the cerebellum, but also the internuncial paths which link up various other parts of the nervous system with each other. Aided by the Marchi method, observers have been able to determine that certain tracts which have their origin in the cerebellum degenerate when lesions are produced in the organ, while others fail to do so, which nevertheless in their turn degenerate when lesions are made in certain other parts of the nervous system.

Great as is the debt which we owe to experimental investigations for the light which has now been thrown not only on the precise connexions which exist between the cerebellum and other parts of the nervous system, but also on the direction in which impulses pass along these paths, whether to or from the organ along any given tract, even greater is the amount of our indebtedness to experimental physiology for the knowledge which we now possess in regard to the functions of the cerebellum, knowledge which we are able to utilize in our clinical work with such brilliant results in many cases, not only in so far as we are concerned with diagnosis, but also in regard to treatment. The darkness which obscured the cerebellum in Lettsom's time has been dispelled by the searchlights of experimental physiology, which have illuminated the organ in a way that leaves us in no doubt as to what its chief function is, even if there be any diversity of opinion as to the precise way in which that function is exercised. We can affirm on evidence that is incontrovertible, which began with the discovery of Flourens in 1824, nine years after Lettsom's death, and which has since been confirmed by a host of experimental physiologists, that the cerebellum is concerned with the co-ordination of movement, and that lesions of the organ accordingly result in inco-ordination. In the endeavours that have been made to determine the precise functions of the cerebellum attention has been paid both to the effects of destructive lesions of the organ and to the results of electrical and other forms of excitation.

Results of Electrical Excitation.

Among those who have directed attention to the latter aspect of the subject it would have been surprising if the name of Dr. Ferrier had not figured prominently, in view of the epoch-making experimental investigations which he conducted on the cerebral cortex with such brilliant results for science and such untold benefit to mankind. The main points that seem proved by his excitation experiments on the cerebellum were that faradic stimulation of certain parts of the middle lobe of the organ resulted in movements of the eyes, and that the head also participated, but that no very satisfactory conclusions could be arrived at with regard to the limbs, in that when any movements were evoked they were too sudden and violent to permit of proper analysis, except that it was observed that they occurred on the same side as that on which the excitation had been applied to the cerebellum. The difficulty of evoking a response from the cerebellum as contrasted with the cerebrum was evident to Ferrier; and so impressed have subsequent observers been in regard to this that it is now admitted by many that the cortex of the organ is non-excitable, and that such movements as can be evoked on faradic excitation are in reality due to diffusion of the current to the nuclei situated in the interior of the organ. The most conclusive proof of the truth of this has been supplied by Sir Victor Horsley and Dr. R. H. Clarke, who, aided by an ingenious instrument devised for the purpose, have been able to localize the stimulus to the individual nuclei of the cerebellum, and to demonstrate that, while the cortex of the organ is non-excitable, an electric stimulus applied to the different nuclei readily evokes a response, which differs according to which of the nuclei is selected for excitation. Thus, on maximal stimulation to the basal region and dentate nucleus there resulted homolateral conjugate deviation of the eyes and head and flexion of the homolateral elbow, whilst deeper excitation of the paracerebellar nuclear region caused in addition extension of the contralateral elbow, hyperextension of the neck and trunk, and forcible extension of the lower limbs. We are thus very strongly reminded of the clinical picture which Dr. Hughlings Jackson described so long ago as 1871, as produced by a cerebellar fit, in which the head is retracted, the trunk arched backwards, the upper limbs flexed and the lower ones rigidly extended.

We are fully prepared for the results which Horsley and Clarke have obtained in so far as the eye movements are concerned, for it will be remembered that the superior cerebellar peduncle takes its origin from the dentate nucleus, and that it forms important connexions with the oculo-motor nuclei. The paths by which the discharge travels so as to evoke movements of the limbs may not be so readily perceived, in that there is no direct efferent tract from the cerebellum to the spinal cord. It was at one time supposed by Marchi, Biedl, and others that an efferent homolateral tract degenerated in the ventro-lateral region of the spinal cord as a result of destructive lesions of the cerebellum, and that there was thus evidence that a direct path from the cerebellum to the spinal cord existed. It has, however, been definitely established that the fibres of this tract only degenerate when the nucleus of Deiters has been injured by the lesion of the cerebellum, and that the tract is accordingly a path from Deiters's nucleus to the spinal cord, and not one which has its origin in the cerebellum (Ferrier and Turner, Risien Russell, Fraser and others). It will nevertheless be remembered that Deiters's nucleus is connected with the roof nucleus, and thus an efferent path is established from the cerebellum to the spinal cord. Yet another way in which impulses may reach the cord from the cerebellum is by way of the superior peduncle, through its connexions with the red nucleus, from which, as we have seen, Monakow's bundle passes to the spinal cord as the rubro-spinal tract.

Cerebellar Influx.

It would be impossible to discuss any problems in neurology which are entirely free from the suggestions of Dr. Hughlings Jackson, whose master-mind has evolved order out of chaos in so many directions, and who was able to predict with so much precision what Ferrier and others have demonstrated in regard to the localization of function in the cortex of the cerebral hemispheres. It accordingly follows that Dr. Jackson long ago formed a very definite conception of the cerebellum in its relation in function to other parts of the nervous system. He considers that all parts of the body are represented both in the cerebellum and cerebrum, and that these two organs are constantly in co-operation, both of them taking part in every operation. There is, according to Dr. Jackson, an interaction constantly going on between the cerebrum, cerebellum, and spinal cord; and if one of these is put out of action from any cause the energy from the remaining parts must assert itself. He speaks of the energy which is derived from the cerebrum and cerebellum as cerebral and cerebellar influx; and he regards these higher centres as constantly exercising an influence on the lower ones in such a way that, if the cerebrum be removed, the cerebellum is no longer hampered, and can exercise its full effects on the lower centres. This flow of nerve energy from the cerebellum he speaks of as the cerebellar influx.

Among the results of my experimental investigations on the cerebellum, there were some that appeared in opposition to Dr. Jackson's view of the action of the cerebellum, and which seemed in accord with a view advanced by Sir William Gowers to the effect that one half of the cerebellum exercises an inhibiting or controlling action on the cortex of the opposite cerebral hemisphere. The evidence that seemed to point to this was that the excitability of the cortex of the Rolandic region of the opposite cerebral hemisphere was increased to faradic stimulation after ablation of one half of the cerebellum, and fits induced by the intravenous injection of absinthe resulted in marked

exaggeration of the discharge from the opposite cerebral hemisphere, so that tracings obtained from the muscles of the limbs revealed an exaggerated clonic fit on the homolateral side, while from the limbs of the contralateral side an almost tonic discharge was revealed.

Although it was not possible for me to reconcile the results of my experiments with Dr. Jackson's views at the time when my work was published, it never occurred to me otherwise than that future research would either reconcile what then appeared to be discrepancies between my results and his views, or prove that some fallacy had entered into my experiments of which I was not then aware. Thus it is that, in the light of more recent experimental investigations, I am now convinced that my results are capable of a different interpretation to that which seemed most obvious at the time when they were published, and that there is nothing in them that can be regarded as in opposition to Dr. Jackson's view, which has since received the confirmation which was to be expected from the results of the investigations of numerous experimental workers.

Bouché has determined that fits induced by intravenous injection of absinthe in an animal deprived of one cerebral hemisphere were clonic and mainly flexor in type from the intact cerebral hemisphere, whereas the fit on the other side was tonic and chiefly extensor. Section of the mesencephalon during the fits abolished the clonic discharges and only allowed the tonic to continue. Even more striking are the results of Leonard Hill, who was able to alter the character of the fit from tonic to clonic at will, according as he interrupted the arterial supply to the cerebrum by clamping the vessels or allowed the blood charged with absinthe to reach the brain.

Decerebrate Rigidity.

Sherrington has shown that removal of the cerebrum results in what he speaks of as decerebrate rigidity, which fully accords with Dr. Jackson's view of cerebellar influx. Moreover, he found that this rigidity could be abolished, and was replaced by flaccidity in the homolateral limbs on hemisection of the spinal cord in the cervical region, which makes it evident that the tonus is derived from the mesencephalon or cerebellum. Sir Victor Horsley, acting on Dr. Jackson's suggestion, divided the mesencephalon at the level of the intercollicular groove, and thus allowed of decerebrate rigidity appearing. Removal of successive sections of the cerebellar cortex produced no appreciable effect on the hypertonus until the sections involved the intrinsic and paracerebellar nuclei. A large horizontal lesion, separating the dorsal half of the cerebellar cortex without involving the nuclei, was also made three weeks before the division of the mesencephalon, again without any appreciable effect on the decerebrate rigidity which resulted in these animals, as compared with that which obtained when a similar section of the mid-brain was performed in normal animals. Thiele, in his researches undertaken with a view to determine the source from which the hypertonus which constitutes Sherrington's decerebrate rigidity is derived, found that the chief source of this energy was at the level of the paracerebellar nuclei. Successive lesions of the mesencephalon, commencing in front and proceeding caudalwards, failed to affect the decerebrate rigidity until these nuclei were reached. The experimental evidence is thus very convincing, both as proving that the nuclear region of the cerebellar complex is the source of the energy which constitutes the cerebellar influx, and as thus confirming the view enunciated by Dr. Jackson more than thirty years ago.

A crossed relationship between one half of the cerebellum and the opposite cerebral hemisphere, however exists, as we have already seen, and this is further emphasized by the fact that in cases of defective development one cerebral hemisphere and the opposite lateral lobe of the cerebellum have both been found atrophied, while the inferior olive homolateral to the affected cerebral hemisphere has shared in the defect.

Motor Centres in Cortex of Cerebellum.

There are those like Adamkiewicz and Prüss, who would have us believe that the cerebellum is exclusively a central organ for bodily movement, and as such possesses localized centres for movement in its cortex. According to these observers centres exist in the cerebellar cortex which are related to the homolateral limbs, excitation of which evoke contraction of the muscles. Each anterior and each posterior extremity is supposed to have its own special centres, the two anterior and posterior extremities having each a special centre, whilst all the four limbs together have one in common.

My own experience makes it impossible for me to accept such observations without considerable question, for all that I have seen justifies the belief that Horsley and Clarke are correct in considering that the cortex of the cerebellum is inexcitable, and that such movements as result from electrical excitation are the outcome of spread of the stimuli to the cerebellar nuclei.

All the facts that have been best established in regard to the cerebellum are in accord with the view that its cortex is concerned with the reception of afferent impressions which are derived from deeper structures like the muscles and joints, as well as those which the organ receives from the labyrinth, and that efferent impulses are thus evoked from its muscles which are responsible for that degree of tonus in the general musculature of the organism which is essential for the maintenance of attitude, and which makes it possible for co-ordinated movements to be executed.

Thus Probst's conception of the cerebellum is in harmony with the best ascertained facts both as regards the anatomical relations of the organ and as regards its functions. According to his view, which is in harmony with the results of Luciani, Thomas, and myself, the cerebellum represents a regulating apparatus for the muscular system in regard to locomotion generally, the position of the body, and voluntary, automatic, and reflex movements. The muscles are placed in a condition of tension, which tonic state is automatic and independent of the will, and provides that the directions proceeding from the cerebral cortex can be properly carried out.

Effects of Unilateral Ablation.

Since the time of Flourens experimental investigators have been agreed that destructive lesions of the cerebellum are responsible for disorder of co-ordination, so that such disorders of function are correctly ascribed to affections of the cerebellum when they are met with in our clinical work. From the clinical standpoint, however, it is often even more important to be able to decide whether the organ as a whole is affected, or whether the disease is limited to one part of it, and experimental investigations have done much to assist us to determine which side of the cerebellum is at fault when a morbid process is limited to one half of the organ. The results of experiments have taught us that each half of the cerebellum is most concerned with the homolateral parts of the body, so that after destructive lesions of one half of the organ the inco-ordination and other defects that result are mainly evident on the homolateral as opposed to the contralateral side, as obtains when the cerebrum is similarly under consideration.

After what has been said of the results of stimulation of the cerebellum, we are prepared for ocular defects as a consequence of destructive lesions of the organ. Moreover, as excitation results in turning of the eyes to the homolateral side, we are prepared for what obtains after destructive lesions—namely, turning of the eyes to the contralateral side after "skew deviation" has disappeared. The latter is an immediate and transitory effect of ablation of half of the cerebellum, whereas the other defect continues for some time, although it also ultimately results in recovery. Associated with this abnormal position of the eyes is a coarse form of nystagmus, which occasions jerking of the globes in a lateral direction. The head assumes a fixed position, in which the ear is approximated to the shoulder on the homolateral side, while the chin points in the opposite direction. The trunk is also curved, with the concavity to the homolateral side, and among the evidences of disordered co-ordination which result the animal rolls over on its long axis towards the affected side, a consequence of cerebellar lesions that is more pronounced when the middle peduncle is divided than when one half of the organ itself has been destroyed. The homolateral limbs reveal a greater degree of ataxia than do those of the contralateral side, and since

Luciani first called attention to the fact others have confirmed his observation that the muscles are in a hypotonic condition, while asthenia results in diminished force of contraction. My own results of destructive lesions of the organ are in accord with Nothnagel's view that lesions of the vermis result in much more severe symptoms than do those of the hemispheres, for while my results do not accord with those who have maintained that no disturbance of function results from ablation of the lateral lobe, the increase in the severity of the symptoms which resulted when part of the middle lobe was removed, as opposed to the lateral lobe alone, was out of proportion to the extra amount of cerebellar tissue that was thus put out of action. My results are also in accord with those who, like Marrassini, find that lesions of the median portion of the cerebellum caused disturbances of equilibrium, in which forward or backward oscillations occurred, whereas lesions of the lateral portions result in lateral oscillations to the right or left, as the case may be.

Effects of Lesions of the Labyrinth.

What has been said of the important connexions which exist between the labyrinth and cerebellum prepares us for the fact that destructive lesions of the labyrinth result in disorders of equilibrium which are similar to those the outcome of lesions of the cerebellum. Thus it is that lesions of the semicircular canals or section of the vestibular nerve result in disorders of equilibration, in which the animal rotates to the side of the lesion and its homolateral limbs are extended and abducted, as if in the attempt to prevent the rotation, while its contralateral limbs are flexed and adducted. Moreover, the connexions which the vestibular nerve forms with the ocular nuclei prepare us for evidences of disordered innervation of the eye muscles of a similar kind to those which follow lesions of the cerebellum, including abnormal position of the eyes and nystagmus. The similarity between the effects of lesions of the cerebellum and labyrinth is further evidenced by the conclusions of J. R. Ewald and others that the labyrinth exerts a tonic influence on many muscles, while Sherrington points to the fact that the "knock-out" blow, in which the concussion is conveyed by the lower jaw to the labyrinth, reduces "a vigorous athlete to an unstrung bulk of flesh."

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The annual report for 1909 of the Library Committee of the College of Physicians of Philadelphia states that the number of bound volumes is 81,018, and of unbound reports, transactions, theses, and dissertations is 31,913. There are in addition over 70,000 unbound pamphlets. The cost of transferring the whole collection from the old to the new building amounted to about £165 for boxes, vans, and labour.

The fifth annual dinner of the Sheffield Edinburgh University Club was held at the Royal Victoria Station Hotel on February 5th, Dr. W. S. Kay, President of the club, in the chair. A company of 108 members and guests assembled to meet Sir Thomas Fraser, the guest of the evening. Dr. Gordon proposed the Alma Mater, and Sir Thomas Fraser replied in characteristic fashion. Amongst the guests were Drs. Sinclair White, Burgess, Dyson, Favell, and Mr. Pye-Smith. A very enjoyable evening was spent

Remarks
ON THE
EFFECT OF BACTERIAL VACCINES ON NUTRITION.

By LEWIS CAMPBELL BRUCE, M.D.,
Medical Superintendent, Perth District Asylum.

If I were asked what is the most common bodily disorder to be noticed in patients suffering from nervous diseases of the type of neurasthenia and the insanities, I would reply, failure of nutrition. There are exceptions to this statement, but it may be taken as a fact that 90 per cent. of the sufferers from functional nervous disorders are thin and poorly nourished. Some of these cases actually die of starvation in the midst of plenty, while others linger on from year to year obstinately resistant to all forms of dietetic treatment. The subject of nutrition, therefore, is an important one for the physician, and any observations which may throw light upon this question are of interest.

In physiological nutrition there appears to be a definite ratio between the nitrogen ingested in the food and the nitrogen excreted in the urine and faeces. When the daily average of nitrogen in the food is reduced, the nitrogen in the excreta also falls, and the body weight is reduced; eventually, however, the body accommodates itself to the altered food supply, a new nitrogen balance is struck, and the weight remains constant.

In acute diseases, notably those associated with fever, the nitrogen balance is upset, the excretion far exceeds the ingestion, and as a consequence there is loss of body weight. When recovery takes place, this condition of affairs is reversed, nitrogen is conserved, more is ingested as the appetite returns, and at the same time the body weight increases, and when recovery is complete a condition of nitrogen balance is again resumed.

In many of the acute insanities, notably maniacal states, the relation of the nitrogen excreted and the urea-nitrogen value of the food ingested conforms to that noticed in acute febrile diseases.

In neurasthenics and cases of chronic insanity, however, there is an entirely different state of affairs. As a rule, the excretion of urea nitrogen is much less than the urea-nitrogen value of the food ingested. If a chart of the nitrogen excreted and the nitrogen ingested in a case of chronic insanity with malnutrition be compared with a similar chart of a patient recovering from acute mania (Chart I), they at first sight appear somewhat similar, but a comparison of the body weights at once denotes a

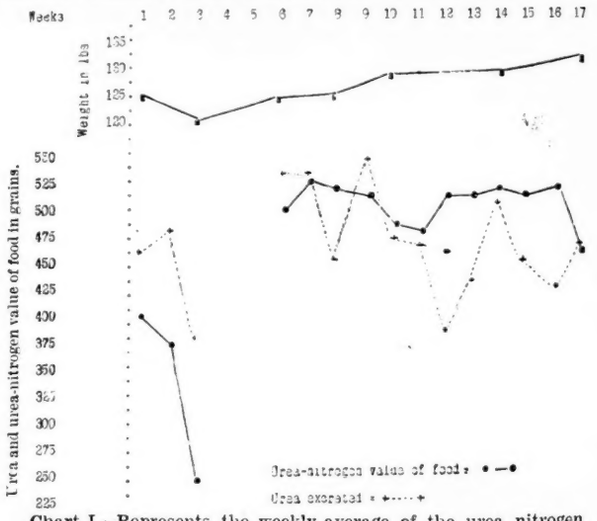

Chart I.—Represents the weekly average of the urea nitrogen excreted, the urea-nitrogen value of the food ingested, and the body weight in a case of acute mania. During the first three weeks, when the patient was acutely maniacal, the excretion exceeded ingestion, and body weight was lost. The latter part of the chart shows the excretion and ingestion during the period of convalescence and recovery, during which period weight was gained.

* Delivered at the annual meeting of the Perthshire Branch of the British Medical Association.

difference. While the patient recovering from mania ingests more nitrogen than he excretes in his urine, and gains weight, the chronic case also ingests more nitrogen than he excretes, but either loses weight or does not gain weight. In the one case the nitrogen is being used to form new tissue, in the other the nitrogen is not being absorbed, and is probably largely excreted with the faeces. Chart II shows the result of observations in such a case of chronic insanity with malnutrition. The patient died apparently as the result of inanition, although taking daily a sufficient quantity of food to preserve life. At the *post-mortem* examination no obvious pathological lesion of the intestines or digestive organs was discovered. In such a case there must have been some more general disorder in the nature of an arrest of metabolism.

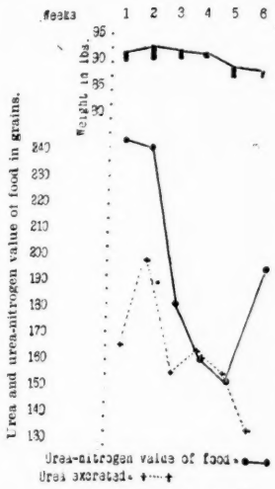

Chart II.—Shows the weekly average of the urea nitrogen excreted, the urea-nitrogen value of the food ingested, and the body weight in a case of chronic insanity with marked malnutrition. Throughout the observation, although excretion was less than ingestion, the patient lost weight and finally died of inanition.

In maniacal states I have previously recorded that the blood as a rule contains agglutinins to certain streptococci, which agglutinins are not often present in the blood of healthy persons. The streptococci which these patients agglutinated were obtained either from the blood, urine, or faeces. It occurred to me that it might be well worth while to try vaccine treatment in such cases if no improvement followed the usual methods of treatment. As the streptococci isolated from different cases differed slightly from one another in their sugar reducing reactions, I made a polyvalent vaccine from seven different varieties of streptococci and treated 11 cases of mania with injections of from 7 to 10 million cocci given at intervals of a fortnight. Of these patients 8 had been ill for over a year, and of the remaining 3, 1 was a recent admission, while the other 2 had been resident for more than three months without showing signs of improvement. Of the 8 chronic cases 2 recovered, and of the 3 more recent cases 2 also recovered. The fact, however, which most impressed me was that the injections of vaccine apparently stimulated nutrition, as 8 out of these 11 cases markedly increased in

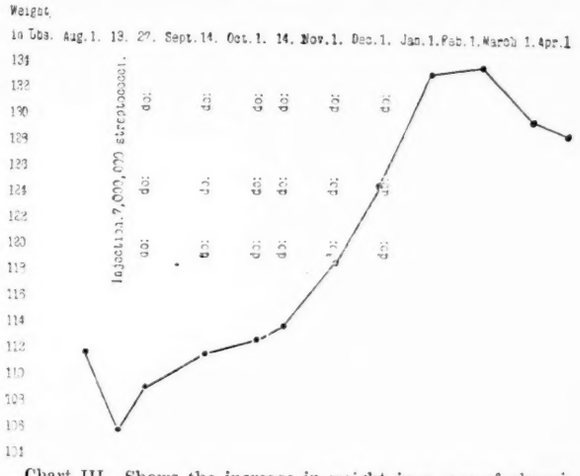

Chart III.—Shows the increase in weight in a case of chronic mania which occurred while the patient was undergoing a course of vaccine treatment. The first injection was given on August 13th and the last on December 1st. The stimulation of nutrition was only temporary in character. Three months after the injections were discontinued the weight fell rapidly.

weight. This point is illustrated by Chart III, that of a case of chronic mania. The weight began to increase after the first injection and continued to increase for a considerable time after the doses of vaccine had been discontinued; after their stimulating effect had passed off weight was again lost.

Chart IV shows the increase of weight in one of the chronic cases which recovered. It will be noticed that from May, 1907, to December, 1907, the nutrition did not alter, but almost immediately after the first injection the

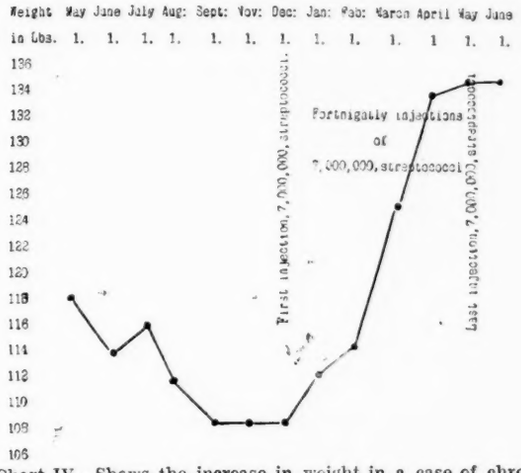
Weight in Lbs. May June July Aug: Sept: Nov: Dec: Jan: Feb: March April May June
Fortnightly injections of 7,000,000 streptococci
First injection 7,000,000 streptococci
Last injection 7,000,000 streptococci

Chart IV.—Shows the increase in weight in a case of chronic mania which occurred while the patient was undergoing a course of vaccine treatment. The chart shows the body weight for a period of six months prior to the commencement of treatment. The first injection of 7,000,000 streptococci was given on December 1st. The body weight immediately began to increase; the patient made what was apparently a good recovery, and was discharged on July 1st, 1909.

weight began to increase, and the further increase of weight was steady and continuous.

In a series of 11 cases it can hardly be a coincidence that 8 gained weight under vaccine treatment, and to explain the action one must examine the changes which occur in the human body following upon the injection of dead bacterial cultures.

When a bacterial vaccine is injected, Nature produces a specific bacteriolysin, and, if toxins are also included in the injection, a specific antitoxin. There is also a specific substance formed, which enables the leucocytes to ingest the bacteria. This substance, first described by Wright, was called by him an "opsonin."

In addition to all these, however, there is a further action, which is not specific in character and which is always associated with an increase in the polymorphonuclear leucocytosis. This action consists in a raising of the general resistive power of the body to any bacterial infection. This factor has been taken advantage of by surgeons, who, by injecting various leucocyte stimulating substances, raise the resistive powers of their patients in preparation for operative procedure.

When my colleague, Dr. C. J. Shaw, and I were working at opsonic indices, we found that in healthy persons it was possible to raise or depress the index to the tubercle bacillus by injecting staphylococci vaccine. A small dose of staphylococci vaccine raised the tuberculous index, and an excessive dose lowered it. The same results were obtained when testing the streptococcal indices of maniacal patients. These findings appear to be contrary to the teachings of Wright, who maintains that there are specific opsonins for all forms of bacteria, and that the quantity of any one opsonin is not affected by the injection of any other organisms to which that one opsonin is not specific. This statement of Wright has been proved to be correct, and my explanation of the variations in the opsonic indices of the patients mentioned above is that a small dose of staphylococci vaccine raised as a whole the resistive powers of the body, and an excessive dose temporarily depressed it. The staphylococci vaccine, in other words, did not actually increase or diminish the quantity of the opsonic bodies normally present in the serum, but only relatively increased or diminished their efficiency for the time being. I mention these facts because it is by no means proved that the vaccines I used in the treatment of my cases of mania were made from organisms causing the disease. I personally believe that maniacal states are always due to a condition of streptococcal toxaemia, but I must admit that the most careful examination of the serums of maniacal patients, even when treated for long

periods with streptococcal vaccines, never contained the slightest trace of bacteriolytic substance when tested *in vitro*.

To explain the stimulation of nutrition, therefore, it is necessary to look for some action more general than a specific action. According to Ehrlich's theory of cell nutrition, there exists in the protoplasm of an active cell a nucleus with which the special functions of the cell are associated. This nucleus has attached to it a number of atomic groups or side-chains which play an important part in the work performed by the cell. These side-chains readily enter into combination with suitable group atoms presented to them, and it is in this way that the nutrition of the cell is maintained. When toxin molecules are introduced they also can enter into combination with the side-chains and for the time being exhaust the supply. As side-chain molecules are, however, in some way necessary for the life of the cell, the cell is stimulated to further production until finally the side chains are produced in excess. As has already been stated, these side-chain molecules are there not merely for the purpose of combining with toxin molecules, and so forming antitoxins, they are there for some definite purpose in the cell's nutrition, and therefore, if present in excess, they will combine with other suitable group atoms.

This theory, I believe, explains the improvement in nutrition which in some cases follows upon the use of bacterial vaccines. We may take it that in cases of persistent malnutrition the cells are unable of themselves to produce a supply of side-chain molecules to carry on healthy nutrition. When toxin molecules in the form of vaccines are introduced in suitable quantities the cells are stimulated to produce an excess of side-chains which not only combine with the toxin molecules but also combine with suitable food atoms presented to them by the blood plasma.

That vaccine injections do alter the nitrogen balance can be readily demonstrated by observing the amount of urea nitrogen excreted and comparing it with the urea-nitrogen value of the food ingested. In the cases of five patients who each received $\frac{1}{500}$ mg. T.R. there was a marked increase in the urea nitrogen output in four of them during the week which followed the injection.

Since making these observations on the patients labouring under mania I have had several opportunities of noting the effects of various vaccines on the body weight of the patients under treatment, and I am satisfied that in some cases of obstinate malnutrition vaccine injections do improve the general nutrition. To obtain the best results, the dose of vaccine must not produce a constitutional reaction. When a constitutional reaction is produced there is a loss of body weight. The dose should therefore be too small rather than too large. Secondly, the injections must be sufficiently spaced. In my observations I found that fortnightly injections gave the best results.

MR. JOHN D. ROCKEFELLER, having learnt of the distinguished services to medical science which have been and are being rendered by the researches of Professor Paul Ehrlich of Frankfurt, Germany, has presented to the Board of Directors of the Rockefeller Institute for Medical Research the sum of ten thousand dollars, to be placed at the disposal of Professor Ehrlich for furthering his investigations into the chemical therapy of the protozoon diseases.

THE annual report of the Trained Nurses' Annuity Fund for the year 1909 tells a simple but eloquent story. During the year, the total amount received in the form of subscriptions and donations exceeded that which had been collected in any previous twelve months; but the council is anxious with regard to the future on account of the loss by death of several generous helpers, including the Earl of Hardwicke, the late chairman. In 1901 the number of applicants was so large that it was found that the fund would have to be "closed" until all these claims had been dealt with. It is now reported that these claims have been satisfied, the last three annuities having been granted during 1909 in highly deserving cases. There are nineteen nurses receiving support, and the sum of £219 6s. 3d. was distributed between them during the year. The fund is administered in a most economical manner, no salaried officers being employed, the only expenses being those of printing, postage, transfer, and audit fees. The Honorary Secretary of the fund is Dr. Ogier Ward, 73, Cheapside, E.C.

Introductory Address
ON
SOME OF THE USES OF X RAYS IN DIAGNOSIS AND TREATMENT.

DELIVERED BEFORE THE BRADFORD DIVISION OF THE BRITISH MEDICAL ASSOCIATION,

BY JAMES METCALFE, M.D.,

CHAIRMAN OF THE DIVISION; HONORARY SURGEON TO ST. CATHERINE'S HOME FOR CANCER AND INCURABLES, BRADFORD.

I HAVE taken as my text some reflections on the present position of the *x* rays in diagnosis and treatment. For the past six years I have devoted a great deal of my time to this subject. Considering that Roentgen only discovered the peculiar physical qualities of the *x* rays at the end of the year 1895, and that it was only during the next two or three years that it was suspected that they had any therapeutic qualities whatever, it is really astounding to think of the elaborate technique evolved during the short period since that time. The diagnostic value of the rays is not now a question of argument—the scope of their use is becoming greater year by year. The therapeutic value of the rays is more open to discussion. They have been tried in almost every conceivable disease, and while it is necessary for the practitioner in this speciality not to allow his imagination to outrun his discretion, yet for certain conditions their application is of indubitable advantage. In some diseases the benefit derived is most unexpected. It seems to me that the results are often astonishing in what I may call the medical derelicts. I mean by that term those unfortunate individuals who have been subjected to every possible and impossible form of medical treatment.

DIAGNOSTIC USES.

To consider, first, some of the diagnostic advantages of the rays, I suppose every one will agree that in fractures and dislocations they are of incalculable value; they do not, however, necessarily make one happier in looking at the results of the treatment of fractures. This is a danger if radiograms fall into the hands of the lay public. They are misread. Only those with a medical education can comprehend the actual position of the parts shown in the radiogram and allow for the distortion produced by the method. But we can see the nature of our fracture, its extent, and the best position to retain it in. Near joints where there is either a dislocation or a fracture, or both, the rays are especially useful.

In all examinations by *x* rays we can use two methods—the fluorescent screen, in which the picture is shown instantly, or a photograph, which is a permanent record. It is obvious that there are advantages in both methods. Where the parts are very dense, as at the hip-joint, and for the examination of renal calculi, screen examinations are of somewhat limited utility. Radiograms are procurable of almost every part of the body. It is simply a question of the form and quality of the Crookes's tube and the amount of current put into it. Most dislocations can be seen on the screen, and their reduction is assisted if performed at the time of examination. It is a great consolation to be able to see at once that the joint is in its correct position. The examination of bones for inflammatory swellings and new growths is very easy, and a good deal of information in regard to the nature of these conditions can be obtained from a satisfactory *x*-ray picture. In the examination of spinal malformations, the nasal sinuses, the antrum of Highmore, the pharynx, larynx, and trachea, the *x* rays can give a great deal of information. Bony abnormalities, foreign bodies, pus, and other things, can often be diagnosed. Abnormalities in the bony parts behind the eye and foreign bodies in that organ can be seen and localized. Foreign bodies can, of course, be seen in any of the soft tissues of the body. The diagnostic value of *x* rays in many diseases of the thorax is now well known.

In the examination of the chest the fluorescent screen is of the greatest utility. The tube can be placed behind the chest and the screen to the front, or vice versa, for anterior and posterior examinations respectively; but

there are some conditions which do not show well in either of these ways. Lateral views have to be obtained, and what are known as the right anterior oblique, the left posterior oblique, or the left lateral methods have to be adopted. In the right anterior oblique position the tube is placed at the left side and the screen to the front and right side, and in the left posterior oblique position the examination with the screen takes place at the left side towards the back, and the tube is placed at the right side towards the front. In the left lateral the tube is placed at the right side and the screen at the left side of the patient.

Loss of elasticity in the lung tissue is quickly shown by the back view of the diaphragmatic excursion. This may be diminished in extent or jerky and erratic. Anteriorly or posteriorly the lung tissue may be lighter, as in emphysema, or darker, as in early tuberculous deposit. The lung will lighten up on full inspiration if normal, but any patches to which air is not freely admitted remain more or less dark. Loss of elasticity in the lung tissue, as seen by the screen, is one of the earliest possible means of diagnosing commencing phthisis—earlier than auscultation, percussion, or the usually applied methods. New growths in the lung may often be seen by the screen, and also fluid, such as pus, or pleuritic effusion. Cavities in the lung can be seen with comparative ease. If they are filled with air they appear as light areas, but if with pus or broken-down material, as darker patches. A peculiar thing about tuberculous conditions in the chest is the relative size of the heart to the other organs. It is usually smaller and placed more vertically in the earlier stages, but becomes hypertrophied and dilated in the later ones. Tuberculous lung conditions have sometimes been ascribed to this heart condition, but I should think it more probable that the loss of lung elasticity has restricted the area of heart movement. A falling together of the ribs on the affected side, producing what is known as a roof-tile appearance, is often pathognomonic of lung disease.

The movements, size, and position of the heart can readily be made out by radioscopy. Pericardial effusions and some conditions of the heart proper, such as mitral stenosis, can be observed. But the greatest advantage is probably in the diagnosis of aneurysms of the aorta. The shadow of the heart vessels is greatly altered in appearance, and can be easily seen, especially in the right anterior oblique position.

With regard to the *x* rays, examinations for some abdominal and pelvic conditions are now an absolute necessity. Nearly all oxalate of lime and phosphatic calculi, and many of the uric acid calculi, can be seen. It is always necessary to control any one picture of a supposed calculus by a second. If the control picture gives a similar shadow in the urinary tract, it is probably a calculus. Mr. Hurry Fenwick, in his excellent work on *Urinary Calculi*, has given a very useful and definite position in which these calculi can be located. He draws an imaginary line upwards from the centre of the crest of the ilium to the last rib, which he names the mid-vertical, and shows how the kidney or ureteral shadow is nearly always found between that line and the transverse processes of the vertebrae. Faecal concretions, phleboliths, and calcified glands sometimes simulate calculi, and one has always to be on guard to avoid falling into error. It is, of course, quite possible to miss a urinary stone, and a negative print is no absolute guarantee that one is not present; but after careful examination and consideration of the possible fallacies, if a positive result is obtained it cannot fail to be of the greatest service to the surgeon. Gall stones are not readily seen except when very large, as cholesterin is very permeable to *x* rays. Some intestinal conditions may be observed, especially after the patient has had a quantity of mucilage of bismuth subnitrate given as a meal some time previously.

THERAPEUTIC USES.

The great field for the therapeutic use of the *x* rays has hitherto been in the domain of skin diseases; to my mind they have almost revolutionized the study of dermatology. But the effects produced on the more superficial tissues can be obtained on the deeper parts by adequate and scientific methods of filtration. *X* rays are of various kinds—some act on the superficial tissues, some immediately below the skin, and some penetrate through the whole mass of a part of the body. The superficial rays can be filtered out by lint treated with a saturated solution of sodium tungstate and dried; layers of felt, sheets of leather or aluminium, thin lead, and other substances. These filters have not yet been placed on any scientific basis, but in time, no doubt, we shall be able to know precisely the kind and amount of filtration required to treat any diseases in the deeper parts of the body. I think there is little doubt that by accurate methods of filtration the inhibitory effects of the *x* rays on malignant diseases in the internal organs of the body will most certainly be very effective. According to Scholtz, the pathological action of the *x* rays on the healthy skin is the following:

(1) They cause a slow degeneration of the cellular elements of the skin, in which not only the epidermal cells but also the mesoblastic cells of the corium and the cells of the epidermal appendages participate. This degeneration affects the nucleus as well as the cell protoplasm. They also cause (but to a far less extent) a degeneration of the fibrous elements, the collagen, elastin, and the muscles. (2) As soon as the cellular degeneration reaches a certain degree an inflammatory reaction occurs in which the blood vessels become dilated, and there is an extravasation of serum and leucocytes. The latter seem to act as phagocytes, and completely destroy the degenerated cells.

It appears to be a fact that all pathological cells are more readily prone to degeneration than normal cells. Consequently the dosage of *x* rays sufficient to inhibit and finally to destroy these cells is much less than that required to destroy the physiologically healthy cells of the part. The *x* rays have therefore an apparently selective action, the disease cells in the neighbourhood under treatment undergoing degeneration and becoming absorbed. Where this degeneration is produced in internal organs toxic effects may be, and sometimes are, produced, as I have seen on several occasions. One has, therefore, to some extent to be guided by the general condition of the patient under treatment. It is very likely that the effect produced by *x* rays on the tissues is due to their actinic energy. Chemical changes are produced in the tissues which profoundly affect their condition.

The cases that usually come under this form of treatment are rodent ulcers, lupus, tinea, malignant growths, and eczema. Occasionally one has to treat cases of favus, psoriasis, acne, enlarged tuberculous glands, old sinuses, hypertrichosis, and some other conditions.

Rodent Ulcers.

Rodent ulcers readily respond to *x*-ray treatment. They quickly scab over, the scabs drop off, and the ulcer heals up. If the applications are continued at somewhat long intervals for a considerable time after the growth has apparently been cured the result is permanent, but if treatment is stopped as soon as healing appears to have taken place there is sometimes a recurrence. For some reason or other it appears to be very difficult to get the ulcer to heal up a second time with the *x* rays. In such cases, if the ulcer be small, healing may be promoted more readily by the application of radium. I have treated a good many of these cases during recent years, but have not used measured doses of the *x* rays. Short-period applications of five to ten minutes' duration with a tube of proper penetration have in the majority of cases healed up the ulcer in from twelve to fifteen applications.

Lupus Vulgaris.

Cases presenting large patches and those with ulcerated surfaces are especially suitable for *x*-ray treatment. Far more applications are, however, required than in rodent ulcer, and when the ulceration is healed I have found that the application of the Finsen light has in many cases acted much more quickly in causing a return to a state of healthy tissue than the continuation of the Roentgen rays. Some cases of lupus do not improve at all with the *x* rays but readily respond to the Finsen light. A case in point suggests itself to me. A widow, aged about 65, had an ulcerated lupus at the end of the nose. She was sent to me for treatment, but failed to keep her appointment. She came back at the end of fifteen months with the nose eaten away at either side and the central tip hanging in rather a precarious condition above the septum. She had had *x*-ray applications during the whole of that period. I gave her light applications with a Finsen-Reyn apparatus, and was pleased to see her nose heal up absolutely. The result, in fact, was so remarkable that I found shortly

afterwards that she had been able to find a second husband. I think that in obdurate cases it is of distinct advantage to have the opsonic index taken and gradually raised by injections of tuberculin. Dr. Eurich has on several occasions carried out this part of the treatment for me.

Lupus Erythematosus.

I have treated two or three cases with indifferent results, though one which had been coming to me for a long time appears now to be nearly cured. She is a farmer's wife, typically healthy in every other way, who has for some years had a batwing condition, extending across the front of the nose. I have applied *x* rays, Finsen light, and the ions of some of the metals, but without any great amelioration of the condition. Some months ago I began using a small high-frequency glass electrode with small sparks, and to my great pleasure the condition at once began to improve. I think now it will soon be quite cured, the skin appearing to be almost normal in appearance over the portions formerly attacked.

Tinea.

As is generally acknowledged now, the most effective treatment of tinea is by *x* rays. In favus, removal of the hairs by forceps is possible; but in tinea the brittleness of the hairs prevents this, the hair giving way at the most diseased part, leaving the parasite in the roots. Too much emphasis cannot be laid on the fact that the *x* rays do not kill the parasite. What they do is to cause some withering of the hair follicles, with an epilation commencing a fortnight to three weeks after the irradiation. The parasite and its spores come out with the hair root, but it is necessary to use antiseptics to the treated area until the part is completely denuded of hair. By the application of a carefully measured dose of the *x* rays, as introduced by Sabouraud, the epilation is nearly always certain. A point of some importance frequently raised by parents is whether the irradiation has any action on the child's brain. This question was discussed at the recent meeting of the British Medical Association in Belfast, and the consensus of opinion was that the applications were absolutely innocuous. Sycosis can be very successfully treated in a somewhat similar way. A complete alopecia is produced, which eventually leads to a rapid recovery from the irritative pustular condition.

Hypertrichosis.

Many women who are afflicted with an unusual growth of hair on the upper lip or chin desire its removal. Where the hairs are comparatively few in number and coarse, my practice has been to employ electrolysis, by which the individual hair is destroyed permanently, and as any small new ones have sprung up I have attacked them in a similar manner. The results are, as a rule, satisfactory. But even with a previous anaesthetization with cocaine by electrical osmosis the process is somewhat painful and is extremely tedious both for the practitioner and the patient. *X* rays, on the contrary, are neither tedious nor painful. The dose required to cause epilation is not sufficient to cause permanent alopecia. Smaller doses have to be applied at intervals of two or three months for one to two years, when a complete atrophy of the hair papilla is produced. But there is some danger of an acute erythema and of pigmentation occurring in the course of the treatment. Personally I have not had much trouble, and I think most women would rather run this risk than endure permanently an unsightly disfigurement.

Malignant Disease.

Malignant diseases of the skin can be frequently treated successfully by the *x* rays. Some cases of epithelioma on the face are best treated in this manner. Here permanent disfigurement results from any operative interference and the probability of recurrence is greater than after *x*-ray treatment. But the after-treatment of cases in which malignant growths have been removed by surgical procedure is one of great importance. It appears to me that the time is coming when it will become a routine method to apply *x* rays after the removal of malignant growths. It is quite impossible even in the most extensive removals to be quite sure that some malignant cells have not been left in the surrounding tissues. The selective destructive influence of the Roentgen rays on these cells is surely worth the expense and trouble involved in their application. It is scarcely desirable to wait until nodules appear in the cicatrix or surrounding tissues before their application. To my mind it is imperative at once to begin applying them occasionally to the suspected parts. Even when nodules and masses have appeared the rays certainly have, under favourable conditions, a powerful action in retarding or even destroying them. In certain cases of inoperable growths the rays have a tendency to make the progress of the tumour slower and to relieve the symptoms. Take such a condition as malignant disease of the rectum. I have in mind a gentleman of advanced years in whom the condition was considered inoperable by several distinguished surgeons. It was thought that it would be impossible for him to exist for more than a very short period without the performance of colotomy. By means of a lead glass speculum I was able to introduce the rays directly to the diseased part, and after a number of applications he was able to pass his motions with comparative comfort. He continues in this condition, which I think any one who knows the discomforts suffered by the person operated on by colotomy will appreciate as a great boon.

Sarcomata are more amenable to *x*-ray applications than epitheliomata, and I have seen sarcomatous growths gradually diminish under a prolonged course of treatment. In all malignant growths a distinct retardative influence is exerted, and I believe that when the methods of filtration and technique of the application of the rays have been more carefully worked out the results will be marvellously better.

Eczema.

It is astonishing how quickly many cases of eczema improve under the application of the *x* rays. It has been suggested to me on several occasions that where the eczema is due to some constitutional condition, as gout or rheumatism, no permanent result could be produced. I do not think this theory holds good. I believe that the constitutional condition in the course of a long period sets up some irritative condition in the skin, and the diseased skin cells react to every little external influence allowed to come in contact with them, and that they often remain in this peculiar condition even when the constitutional condition has been cured. The *x*-ray applications stimulate the growth of the healthy cells and retard the growth of the pathological cells, and quickly bring the part into a more normal condition.

Psoriasis.

Patches of psoriasis often respond to *x*-ray treatment, but I should like to mention especially cases of the peculiar condition known as psoriasis vulgaris unguium. The thickened hoofy nail substance, in which there is sometimes a good deal of pain from pressure symptoms, is gradually reduced in bulk and the opacity much diminished. After applications extending over a considerable period, I have been able to get a cure, with healthy nails, in several cases which had resisted all other forms of treatment.

Enlarged Cervical Glands.

If it be undesirable to operate, or if there be a prejudice against operation, *x*-ray treatment should be tried. I have treated many cases of this class, and by covering the glands with sodium tungstate lint, and giving repeated applications, have been able to reduce the gland to a mere core of atrophied fibrous tissue. Old broken-down glands and tuberculous sinuses have often healed up remarkably well.

CONCLUSION.

I have only dealt with some of the more important conditions in which I have myself found the *x* rays of practical utility. I do not suggest for one moment that we should rush into *x*-ray treatment for every condition I have mentioned. Where surgical interference is possible, or when ordinary medical means are applicable, I believe these should be used. But after all has been done that is possible by the classical methods, and the results are not perfectly satisfactory, then I think the judicious use of *x* rays is advisable.

[A large number of radiograms were shown, some of which were kindly lent by Dr. F. Howard Humphris of London, and some lantern slides of instantaneous radiography by Messrs. W. Watson and Sons, Limited, London.]

THREE CASES ILLUSTRATING THE SURGERY OF THE JEJUNUM.

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OPERATIONS upon the jejunum for conditions arising in that part of the intestinal tract are by no means frequent. Of the three conditions illustrated by the following cases rupture is probably the commonest; carcinoma occurs so seldom that not more than half a dozen successful resections for cancer appear in the literature; and no exact parallel to the congenital stricture—if congenital it be—has been found in an extensive search through published reports. The two latter cases are to be looked upon almost as curiosities, but their rarity is sufficient justification for their publication.

CASE I.—*Traumatic Rupture.*

H. J. L., aged 29, on October 2nd, 1908, at 6 p.m., had a meal of kippers, bread-and-butter, and tea. At 6.30 he went to the riding school of his regiment of Yeomanry, where, at 6.50 p.m., he was kicked by a horse. He lay down for three-quarters of an hour, and was then brought to hospital in a cab. He walked into the surgery, and appeared so well that the house-surgeon was in some doubt whether it was necessary for him to be detained. Whilst under observation, however, he vomited twice, and, being sent to the ward, collapsed as he was being got into bed, about 8.15 p.m. By 9 p.m. acute symptoms were well developed.

There was a slight abrasion over the left lower ribs in the nipple line; no fracture, no haematoma. The abdomen was extremely rigid, flat, and tender. The left flank and hypochondriac region were quite dull on percussion; the liver dullness was normal. He had passed water naturally, and there was no blood in it. The respirations, which were 24 on admission, had risen to 32; the pulse similarly from 72 to 84; the "abdominal facies" was well developed.

Operation.

At 10 p.m. the abdomen was opened in the left linea semilunaris; there was a little slightly turbid fluid in the cavity, but no evidence of gross particles of stomach or intestinal contents, or of blood. A coil of small intestine was found very collapsed, and upon following this upwards a longitudinal rupture of the jejunum about 6 in. from the duodeno-jejunal flexure was exposed. The opening, which was about an inch and a quarter in length, gaped from three-quarters of an inch to an inch transversely, the mucous membrane pouting. No contents were escaping; in fact, though the duodenum was distended, the jejunum justified its name in its remarkable emptiness.

The opening was closed by two rows of sutures, the abdomen sponged out, and a tube passed to the bottom of the pelvis through a suprapubic opening. Massive injections of saline were given per rectum.

After-History.

There was some vomiting for four days after the operation, but the temperature never rose above 99.6°, and he was discharged to a convalescent home on November 13th.

He returned to see me a month or two later, complaining of occasional pains in the neighbourhood of the wound, which appeared to be due to adhesions; a course of massage relieved him, and he declared himself in perfect health. In a letter dated January 4th, 1910, he stated that he felt as well as ever he did, and asked permission to take up riding again.

The only point of interest in this case is that the rupture occurred in an empty coil of gut. It is possible that it might have been distended with gas, but there was no clinical evidence of free gas in the peritoneum. It is highly improbable that in this instance, at any rate, the rupture was a "bursting" rupture. It is noteworthy that although the duodenum was distended the paralysis of the few inches of gut intervening above the rent, was competent to prevent passage of the contents for at least three hours. The percussion dullness in the flank is a curious clinical feature, and was due, presumably, to the empty state of the underlying intestine. The uneventful recovery illustrates the enormous importance of early operation and the innocuous nature of the bacterial content of the upper part of the healthy gastro-intestinal tract.

Fig. 1.—CASE II. Stricture of jejunum: parts removed. The lumen admitted a probe with difficulty. D, Duodenum; J, jejunum.

CASE II.—*Stricture of the Jejunum, Probably Congenital.*

E. L., a married woman, aged 47, had had sixteen pregnancies, the last three years ago. Three of the children died in infancy; there were two miscarriages. When first "taken bad" at Christmas, 1907, she declared it was the first illness of her life. There was a sudden attack of abdominal pain followed by vomiting, and it may be said that until the operation, six months later, neither of these features was long absent. She was admitted to another hospital in February, 1908, and remained till the middle of April. I am informed that the principal symptoms were pain and vomiting; there was a good deal of pigmentation of the skin; Calmette's reaction was positive. She was thought to be suffering from Addison's disease.

On admission to the Westminster Hospital, July 3rd, 1908, under the care of Dr. R. G. Hebb, she described the pain, which was in the left hypochondriac and umbilical regions, but radiating to the groin, as "coming on gradually like labour pains." It was worse about a quarter of an hour after food. It was relieved by vomiting, which was copious. The heart, lungs, and kidney showed no signs of abnormality. There was some pigmentation of the skin of the abdomen; there was no distension, no evident peristalsis, and no palpable tumour. The teeth were carious, and there was pyorrhoea alveolaris.

She stated that her original weight was 11 st. 12 lb.; on admission she weighed 7 st. 8 lb. A test meal on July 7th gave no reaction for free HCl; it was acid to litmus; there was a good reaction for lactic acid; pus was present. On July 13th lavage was commenced, and in about a week had relieved the vomiting considerably; loss of weight, which had continued at about 1½ lb. a week, was temporarily interrupted, and for one week she gained 2 lb. The temperature occasionally rose to 101° or 102° F. A blood count showed:

Serum to corpuscles	... 1—1	
Haemoglobin ...	... 88 %	
Red blood corpuscles	... 5,690,000	
White blood corpuscles..	5,300	
Polymorphs, coarsely granular	... 3 %	51 %
Polymorphs, finely granular ...	... 48 %	
Monomorphs, large	... 7 %	49 %
,, transitional	29 %	
,, small	... 13 %	
Platelets	... a few.	

A stomach wash on July 31st gave, on microscopical examination, mucus, oily material, fat crystals, débris; many minute blastomycetes and bacteria; cancer cells not observed. Acid to litmus; no reaction for free HCl; lactic acid present.

Operation.

A diagnosis of obstruction at the pylorus was made, and in spite of the blood count it was thought probable that it was malignant; the absence of any palpable tumour suggested the possibility of removal, but the laparotomy, performed on August 12th, was in the first instance exploratory.

The stomach was withdrawn and found healthy; it was not notably dilated. On turning up the great omentum what appeared to be another "stomach" came into view, and it was thought for a moment an hour-glass viscus was being dealt with. It was recognized, however, that the second pouch was in fact the immensely distended duodenum, and upon tracing it towards the jejunum a lump was felt immediately beyond the flexure. This had precisely the appearance of a malignant stricture of the colon, looking, that is to say, as if a piece of string had been tied tightly round the gut. There were no adhesions, but it was not without considerable difficulty that the parts were arranged for excision and repair. A piece of gut about 7 or 8 in. in length was removed, the open ends were closed, and a junction was made by lateral anastomosis between the jejunum and the remainder of the duodenal pouch.

After-History.

Constant saline infusion per rectum was instituted immediately after the operation; there was some vomiting, easily controlled by a hypodermic injection of morphine; she was fed by nutrients for two days and then began feeds by the mouth. The temperature never rose above 100° after the operation. She

was discharged on the thirtieth day. When seen on August 13th, 1909, exactly a year later, she said she was quite well. She never had any vomiting, and she had regained her normal weight, having put on more than 4 st.

In January, 1910, this patient was seen again. She complained that she was "getting very large in the stomach," but this seemed to be due merely to adiposity; she had been sick on one or two occasions and had now and again noticed "gurglings" in the abdomen, traceable it appeared to indiscretions in diet. She had also one or two other symptoms quite unconnected with the abdominal trouble. She seemed in good general health.

It is of interest, from the point of view of diagnosis in this case, that although the vomit was sometimes "green," no evidence of bile was afforded by the test-meal result or by the stomach washings. In the great majority of cases of stricture, malignant or benign, below the papilla, the presence of bile in the stomach has been an important feature. The blood count, too, was deserving of more attention than it received. An observation of one of the clinical clerks, that he had felt an indefinite swelling in the epigastrium on one occasion, though it was not confirmed, was probably correct; for the distended duodenum, when contracting, might easily have been felt. Nothing in the surgical procedure calls for remark; the only difficulties were those dependent on the depth and fixity of the duodenal remainder, and the necessity for rapidity due to the condition of the patient. The anaesthetic was admirably administered by Dr. Vivian Orr.

Fig. 2.—Case III. Cancer of the jejunum: parts removed.

Upon cutting open the gut no "tumour" appeared; the mucosa for about an inch and a half above the stricture (which, when fresh, would only admit a probe, and actually held water) was atrophied and irregular of surface. During the process of hardening, for which purpose the lumen of the stricture was stuffed with wool, the mucosal surface suffered some damage, but the microscopical examination showed no evidence of malignancy, or of acute or chronic inflammation; there was no cicatrix, at any rate in the part examined, of old ulceration. A gland from the mesenteric parts removed exhibited no sign of malignancy.

As to the origin of this stricture, one can do no more than hazard a guess. The history points strongly to acute ulceration, but even an expectant eye cannot trace evidence in the microscopical appearances. In this opinion I have the support of Dr. Hebb, who kindly made the examinations. There were no attached bands, there was no specially well-marked retroduodenal fossa, and the situation of the stricture practically precluded its incarceration in such a pouch. It was beyond the track of the superior mesenteric vessels; there was no evidence of syphilis or tuberculosis. On the other hand, the situation at the duodeno-jejunal flexure does suggest the possibility of a congenital origin, and to this opinion I am inclined.

CASE III.—*Cancerous Stricture of the Jejunum.*

Mrs. S., aged 58 (for the notes of whose case I am indebted to Dr. H. T. Barron, of Tooting, by whom I was asked to see her), had always been delicate but very active; she had an illness some years ago for which lavage was proposed and attempted, but excited such distress that it was abandoned. She was said to have suffered from "obstruction" on one occasion, but had been relieved by an enema. Dr. Barron says: "What may properly be called the 'present illness' commenced about the end of February, 1909, with distressing abdominal colic. I ascribed this to a meal of tinned lobster taken the previous day. The pains were relieved by treatment, but in the next week returned occasionally, being worse at night. Examination of the abdomen revealed nothing of importance save enteroptosis and some dilatation of the stomach, which, on percussion, seemed to reach about an inch and a half below the umbilical level. Five days later when travelling in a motor 'bus there was a return of acute abdominal pain, worse in the epigastrium, and nausea. She vomited in the street, and her husband 'thought she must have brought up several quarts.' Two hours later I found her collapsed and still in very great pain. She has a well-marked susceptibility to opium and its alkaloids, verified on more than one occasion, so that I was not justified in administering it. For the next three or four weeks, spent more or less in bed, she had intervals of freedom from pain succeeded by exacerbations of pain and sometimes sickness. There was never any jaundice. Peristaltic movements were now visible in the upper zone of the abdomen and in the course of the ascending colon, and at my advice Sir William Allchin was called in. He considered that there was obstruction in the large intestine and probably also at or near the pylorus, presumably due to adhesions. The patient was extremely thin, but I had known her for three years and did not appreciate any alteration in her facies other than the immediate symptoms would account for. The stools were pultaceous."

Exploratory Operation.

On April 24th, 1909, the patient, who had been carefully prepared by scrupulous attention to diet and by numerous enemata, was anaesthetized by Dr. Cecil Hughes. On opening the peritoneum above the umbilicus a broad band of adhesions constricting the colon just beyond the hepatic flexure was found uniting the gut to the whole length of the gall bladder, which was small and shrunken, but contained no stones. The same mass of adhesions also dragged upon, kinked, and partly constricted the first part of the duodenum. The rest of the abdomen was explored by the hand, but no other cause of obstruction was detected, and, as the conditions presenting offered an explanation of the symptoms, when they had been dealt with the abdomen was closed.

For three days there was a great deal of pain, then relief. A week later, when she had been taking solid food for two or three days, there was a recrudescence of pain and again visible peristalsis, this time in the lower zone of the abdomen. A fortnight after the operation a severe attack of vomiting commenced at 1 p.m. By 9.30 p.m. she had vomited over 100 oz. of fluid, although in the previous twenty-four hours she had taken less than 50 oz. by the mouth. The patient was collapsed.

Second Operation (for Acute Obstruction).

The patient was anaesthetized by Dr. N. W. Bourns. Upon reopening the abdomen, the coils of gut, which at the previous operation were all empty and contracted, were now sharply differentiated, and a coil of distended small intestine led one at once to a small annular tumour, which proved to be in the jejunum approximately 24 in. or less from the duodenal flexure. About 9 in. of intestine, including the growth and the corresponding mesentery, were excised, the open ends closed, and a lateral anastomosis performed.

The subsequent progress was uneventful, and I am informed that she is now able to get about comfortably, and takes food

well; she has, however, not put on flesh, and occasionally has pains in the abdomen, but they have not been bad enough to induce her to seek advice.

This case is of interest, in the first place, because there are only some 70 cases of carcinoma of the whole small intestine below the papilla available in the literature. From the point of view of diagnosis, moreover, it presents noteworthy features. The characters of the vomitus were suggestive of dilatation of the stomach, but unfortunately they were not specially tested for bile. The character of the stools is difficult to account for; no evidence of disease in the pancreas was forthcoming, yet it is improbable that the adhesions around the gall bladder, extensive as they were, modified to any extent the amount of bile reaching the intestine. At the first operation the ascending colon was greatly distended, whilst the transverse was collapsed beyond the adhesions. The stomach was not as much dilated as was anticipated, and, although the whole abdomen was explored manually, the little tumour, subsequently found, was not then discovered. Two facts may be pleaded in extenuation of this failure. First, the adhesions formed such an obstruction to the pyloric region of the duodenum and to the colon as seemed adequate to account for the symptoms; and, secondly, the great care which had been expended upon clearing out the intestines deprived one of the help afforded by contrast of dilated and contracted small intestine. At the second operation this feature led one at once to the site of the mischief.

The growth, as will be seen from the photograph, closely resembles in its macroscopic appearance the ordinary annular carcinoma of the colon, and microscopically proves to be a columnar or cylinder-celled cancer. A gland from the mesentery showed no evidence of metastasis. Inspection of the site of the previous operation showed that the adhesions had not re-formed, and that the colon was almost completely free from constriction where previously compressed.

REMARKS ON THYROIDECTOMY:

WITH ILLUSTRATIVE CASES.

By F. P. STURM, CH.B.ABERD.,
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THIS paper is based upon 100 cases of the various varieties of goitre. Twenty-six of these cases underwent operation at the hands of the writer, with one death, giving a mortality at the rate of a little less than 4 per cent. It is submitted that this is not a high mortality, since no patient has been operated on who was not suffering from symptoms of thyro-toxaemia which had defied medical treatment, or from some other condition of the thyroid injurious to life or health. The operation when performed in any of these circumstances may be a comparatively straightforward procedure, or it may be, and frequently is, one of the most difficult operations in surgery.

The chief difficulties are from haemorrhage, shock, and adhesions. Haemorrhage and shock are mostly to be feared when dealing with the subjects of Graves's disease. The condition of so-called "acute thyroidism," said to have been responsible for so many deaths in the early days of the operation, is mentioned only to be doubted, and any such problematic danger is efficiently met by drainage during the first twenty-four hours. Adhesions, on the other hand, are a very real difficulty, and are apt to be particularly firm and numerous in old-standing cystic tumours of the thyroid, where they give rise to difficulties which are often almost insuperable. Shock frequently follows these operations, and though it is often called "acute thyroidism" it is not different from ordinary surgical shock. Danger from sepsis can practically be ignored in these days.

INDICATIONS FOR OPERATION.

It is my practice to refuse to operate in all cases of soft parenchymatous goitre in young girls, no matter how large the goitre may be, provided there are neither urgent pressure symptoms nor symptoms of hyperthyroidism. Many such cases have been sent to a medical colleague, and have got quite well without operation. If there is any apparent connexion between the enlargement in the neck and the menstrual functions, then some preparation of thyroid material seems to have done most good. In the majority of such cases the enlargement of the gland is a sign of thyroid inadequacy, not of hyperthyroidism.

No case of Graves's disease is operated on until adequate medical treatment has failed to bring about any amelioration. By adequate medical treatment is meant six weeks in bed and a course of belladonna and strophanthus, or, better still, ammonium picrate. My attention was first drawn to the latter drug by Dr. F. E. Wynne, of Leigh; and the only case in this practice that ever recovered without operation did so after two months upon ammonium picrate. If there are no signs of improvement at the end of six or eight weeks the more vascular lobe is removed through a modified Kocher's incision, always under local anaesthesia, with the occasional addition of scopolamine-morphine in very restive subjects. If both lobes are greatly enlarged both are removed, particular care being taken to preserve the isthmus with an efficient blood supply. I have removed both lobes for adenomatous disease upon six occasions, and have seen no ill results.

All cystic goitres should be removed as early as possible, for they never improve under medical treatment, and are apt to give great trouble after middle life; as also goitres of whatever variety having retro-sternal or retro-clavicular outgrowths, or giving rise to dyspnoea from tracheal stenosis, as all these are apt to cause sudden death.

A rapidly growing goitre in any person over 30, especially if there is neither high temperature pointing to acute thyroiditis, nor rapid pulse suggesting Graves's disease, should be removed *en bloc*, as it is probably malignant. Fortunately such cases are extremely rare.

I feel some doubt about ever again performing thyroidectomy upon the subject of breast disease. In order to relieve pressure upon the brachial plexus and tracheal stenosis, I removed a large goitre weighing over 2 lb. from a patient of Dr. E. A. Doyle, now of Colne. The wound healed under one dressing, and the patient, a woman of 48, was up on the seventh day. Six weeks later it was discovered that a long-standing adenoma of the breast had become actively malignant. A radical operation was at once performed, and so far, fourteen months later, there is no sign of recurrence. The connexion may be merely coincidental, but it cannot be ignored. That there is some relation between the thyroid and the functions peculiar to women is a matter of common observation. In another case, also a patient of Dr. E. A. Doyle, the removal of a diseased ovary was followed by the disappearance of a soft goitre which had been for months associated with symptoms of moderate hyperthyroidism.

HAEMORRHAGE.

Trouble from haemorrhage is most often met with when operating upon the subjects of Graves's disease. Here one has to deal with enormous plexuses of enlarged, baggy veins, or rather sinuses, very easily torn. When confidence has been gained by frequent performance of the operation the wisest plan is to waste no time in clamping veins, but to control haemorrhage by packing in strips of sterile gauze, and then to isolate and ligature the superior thyroid artery as rapidly as possible, when the severest venous haemorrhage usually stops.

In dislocating the tumour forwards the superior thyroid artery is put very severely upon the stretch, with the result that when the artery is divided it retracts into the depths, and can hardly be found again. If the ligature happens to slip the resultant rush of blood is likely to disquiet the coolest operator. This accident happened to me about a year ago while operating upon a patient sent by Dr. Wynne. The deep cervical fascia had been split in the mid-line and the tumour was being freed from its numerous adhesions when copious haemorrhage took place from the deep accessory veins. This was controlled by gauze strips, and the superior thyroid artery found, ligatured with a single thickness of No. 2 chromic gut, and divided. Upon removing the plug the venous haemorrhage did not cease, as it usually does, but became so vehement that the neck muscles in front, as well as the sterno-mastoid, had to be divided and dissected back in order to find and clamp the torn vessels. The tumour was then removed, the inferior thyroid artery being secured without difficulty, but no sooner was this accomplished than the ligature upon the superior thyroid gave way, and such

violent arterial haemorrhage took place that the patient collapsed. The bleeding artery had retracted far up behind the angle of the jaw, and spouting into the enormous cavity left by the removal of the tumour, filled it with a churn of blood and foam. Dr. Sackville Martin, who was assisting, managed to secure the vessel, but not before the patient was practically bloodless. The wound was then closed and drained and the patient given large quantities of isotonic saline by the rectum. She made an uninterrupted recovery.

Adhesions.

During the time that a thyroid tumour is undergoing cystic degeneration two changes are concurrently taking place in the cyst wall. 1. Scaly deposits of calcareous material gradually line the inside of the cavity, which may be filled with a clear or light brown fluid, perhaps containing oily globules, or with a sterile substance in appearance like oily pus, or more rarely with a gluey fluid, which is probably changed colloid. These deposits render the walls rigid, and difficult to manipulate. 2. The cyst wall, stimulated to a slow inflammatory activity by this deposit of insoluble and irritating salts, begins gradually to form adhesions with surrounding structures. As the tumour grows the muscles of the neck are stretched out in thin layers upon its surface, to which they adhere, gradually becoming part of the cyst wall. The great vessels of the neck, especially the internal jugular, also become adherent, and before long the vein, if not actually calcareous, becomes so brittle that any attempt to dissect it away from the tumour almost certainly results in a tear. In time the oesophagus, trachea, vertebrae, and even the dome of the pleura, also suffer. The following case very adequately illustrates these difficulties:

A gentleman, aged 52, a patient of Dr. Sephton, of Culcheth, was operated on in January, 1909. Eighteen months previously a left-sided thyroid tumour of twenty-five years' standing had begun rapidly to enlarge, giving rise to very warrantable suspicions of malignancy. The patient had been advised against operation, for he was stout and plethoric, with intermittent action of the heart, but the pain became so constant and the pressure symptoms of dyspnoea and dysphagia so urgent that surgical interference was a matter of necessity. Under eucaine-morphine-adrenalin anaesthesia the growth was exposed by a long incision from the mastoid process to the sterno-clavicular joint. The muscles were indistinguishable one from another and cut like raw ham, which they much resembled in texture and appearance. No sooner had the deep aspect of the cyst been reached by an exploring finger than it burst, flooding the wound with about a pint of curdy yellow fluid mixed with drops of oil. The patient then vomited a quantity of the same material through an opening into the oesophagus. This opening was closed by a single suture of chromic gut. The cyst wall was adherent to the vertebrae, the oesophagus, the trachea, the angle of the jaw, and the clavicle. It was dissected away piecemeal amid much haemorrhage, which fortunately was easily controlled by Dr. Auden, who was assisting. A portion of the wall, deep behind the clavicle, had to be left. It was probably adherent to the dome of the pleura, as it rose and fell with respiration. Four long-handled artery forceps had to be left on vessels situated too deeply behind the sternum to be ligatured. These were removed in forty-eight hours. The patient made an excellent recovery, and is now in the best of health.

Technique.

Certain practical points may briefly be touched upon. Kocher's "collar incision," while excellent in many ways and giving good cosmetic results, does not allow of a sufficiently wide field of manipulation in difficult cases. I find it useful to prolong the ends of the incision upwards for a couple of inches towards the angle of the jaw, thus permitting the all-important superior thyroid vessels to be secured at an early stage.

The material chosen for a ligature is a matter of personal predilection. Kocher uses and recommends silk for all aseptic surgical work, and especially for thyroidectomy; English and American surgeons prefer catgut; but ordinary Irish linen thread, well boiled and stored in an alcoholic solution of phenol, provides a cheap and trustworthy ligature. I have used linen thread very extensively in general surgical work, and have had no reason to regret the choice. For the radical cure of hernia it is, I may mention in passing, perhaps the ideal material.

The question of anaesthesia has been settled by the almost unanimous preference of surgeons for local infiltration methods. The use of the weak eucaine-adrenalin solution recommended by Mr. Barker gives perfect results from the point of view of the surgeon, and, if preceded by an injection of scopolamine-morphine, from the point of view of the patient also. I have never seen post-operative vomiting in cases in which scopolamine-morphine had been used either alone or together with a local or general anaesthetic.

The preparation of the field of operation is a matter of the utmost importance. The skin of patients with bronchocele is usually so tender that irritating lotions and dressings must be rigidly eschewed. Mercurial preparations in particular are to be avoided. A boric fomentation the night before operation, another in the morning, and a light washing of the skin with 1 in 40 alcoholic solution of phenol immediately before the incision is made will be found to give the best aseptic results. The wound is dressed with sterile xeroform or iodoform gauze. Cases so treated and not requiring drainage have invariably healed under one dressing.

ON THE CAUSES DETERMINING THE PRODUCTION AND DISTRIBUTION OF THE ERUPTION IN TYPHOID FEVER.

By J. P. H. GREENHALGH, M.D., Ch.B.Manch.,
Staff Surgeon, R.N.

According to Jenner,[1] the eruption in typhoid fever "is due apparently to an increased flow of blood only to detached points, and rupture of the vessels at these points never occurs." The typhoid bacillus has been demonstrated in the spots since the above was written, but there is little else to add.

In the eruptive fevers which are primarily infections of the blood, the eruption is distributed over the whole or greater part of the body. In typhoid fever, which is not primarily an infection of the blood, but has definite anatomical lesions, the eruption is confined with conspicuous regularity to that area of skin which is in direct communication, by means of nerve fibres, with the foci of infection—namely, the small intestine and its lymphatic glands, and the spleen.

The small intestine is innervated by branches from the superior mesenteric, and the spleen by branches from the coeliac plexuses, both of which are direct continuations of the solar plexus. The solar plexus receives the great splanchnic nerves, which take origin from the thoracic ganglia of the sympathetic included between the sixth and the tenth; and the coeliac plexus receives the lesser splanchnic nerves, which take origin from the tenth and eleventh thoracic ganglia, and a portion of the smallest splanchnic nerve, which takes origin from the twelfth thoracic ganglion. The great and lesser splanchnic nerves also have intercommunicating fibres in the thorax.

The thoracic ganglia giving origin to the splanchnic nerves communicate, by means of both afferent and efferent fibres, with the sixth to the twelfth dorsal spinal nerves; and these spinal nerves supply a segment of the body bounded above by a quasi-horizontal line encircling the chest a little below the level of the nipples, and below by a similar line a little above the level of the brim of the false pelvis. The area enclosed by these two lines represents the area to which the eruption in typhoid is, as a rule, confined.

Dr. W. H. Gaskell[2] has shown that the outflow of visceral nerves from the central nervous system into the sympathetic system takes place by means of the white rami communicantes. Each white ramus contains also the afferent fibres for impulses passing from the viscera by way of the sympathetic.[3] The late Professor Ross,[4] Drs. Head,[5] Mackenzie,[6] and others have shown that afferent impulses arising from disordered viscera excite sensations which are referred to the sensory terminations of the spinal nerve or nerves directly in relation with the spinal cells receiving such impulses; and Dr. Head has mapped out the cutaneous areas in which referred pain is felt, by means of a study of cases of herpes zoster. The skin areas in which the herpetic eruption appeared were found by him to coincide with the areas which have increased sensibility to pain in visceral disease.

The cutaneous area which Dr. Head found was associated with disorder of the intestines is that supplied by

the ninth to the twelfth dorsal nerves inclusive. He determined this association on clinical grounds, but experimental inquiry into the motor nerve supply of the intestine bears out his conclusion. In the dog, inhibitory fibres for the small intestine have been found in the sixth dorsal to the first lumbar nerves inclusive, and principally in the ninth to the twelfth dorsal[7]; and vasomotor fibres in the sixth dorsal to the second lumbar nerves inclusive.[8]

Dr. Head has not described a tender area in relation with the spleen; but, by virtue of its position, it probably has the same as that assigned by him to the stomach—namely, the area supplied by the sixth to the ninth dorsal nerves inclusive. The extent of its motor innervation, derived principally from the sixth to the eighth dorsal nerves inclusive,[9] supports that view.

Thus, the skin area having the same innervation as the small intestine and spleen coincides with the area to which the eruption in typhoid is, as a rule, confined. For convenience of reference this area will be called *the reflex zone.*

The phenomena in the reflex zone are different from those which Dr. Head has described in his areas of referred visceral pain. In these, increased sensibility for painful stimuli is always present, which is not so in the reflex zone of typhoid. I have found that moderate pressure of one or both points of a pair of dividers on the skin of the abdomen in typhoid is often not felt at all; the pressure having to be increased considerably to excite a definite perception of contact. In only 2 of 23 cases was any feeling of pain caused by this experiment. In his areas, Dr. Head did not find any alteration in sensibility for touch; but in the reflex zone of typhoid I have found that sensibility for touch is diminished. To determine this, I have estimated the liminal distance for touch, according to Weber's method, in 23 cases of typhoid fever in the eruptive stage—(*a*) within the reflex zone; (*b*) outside the reflex zone. The results were controlled by similar observations on the same number of patients, selected to conform to the typhoid patients in point of age, duration of illness, and height of fever, but suffering from other diseases. Care was taken to exclude from both groups cases showing hysteria, pain, high fever, delirium, or other state which would discount the value of the aesthesiometric observations. The intrazonal measurements of the liminal distance were taken on the skin over the abdomen, within a radius of 3 in. from the umbilicus; the extrazonal measurements on the inside of the thigh, 3 in. above the level of the knee-joint. The former area is within the distribution of the sensory fibres of the ninth, tenth, and eleventh dorsal nerves, and the latter within that of the fourth lumbar nerve. The area supplied by the fourth lumbar nerve is included in Dr. Head's "lower gap," which is not affected in disorder of the viscera.

In Dr. Head's areas, the superficial reflexes normally present are always increased; but in typhoid I have found the superficial reflexes in the reflex zone often diminished, or absent, during the eruptive stage of the fever. Of 27 cases examined on this point, the epigastric reflex was diminished or absent in 21, and the abdominal reflex in the same number.

In the accompanying table the diminution of tactile sensibility in the reflex zone of typhoid is expressed in terms of the increase (1.6 cm) in the liminal distance for touch in that area, over the liminal distance for touch in the same area in other diseases. The equivalence of the liminal distances in the extra-zonal area in the two groups of cases goes to show that general diminution of cutaneous sensibility for touch is not more characteristic of typhoid than of other febrile diseases. [That the percentages relating to the state of the reflexes in the two groups are in inverse proportion is entirely a coincidence.]

The tonus of skeletal muscle innervated from the spinal level of the reflex zone appears to be diminished. Resistance to abdominal palpation is not usual in typhoid, and I regard the fullness of the abdomen seen in ordinary cases as partly due to loss of tonus in the muscles of the anterior abdominal wall. Cognately, these muscles are those most often affected by Zenkerian degeneration.

Impaired nerve control in this area is shown by other signs. Professor Osler has observed lines of atrophy, like those of pregnancy, in the skin of the abdomen in typhoid; and regards them as being of neuritic origin. Sacral bedsores occur more frequently in typhoid than in other diseases—nervous excepted—where the patient remains on the back for the same length of time. After laparotomy for perforating ulcer of the intestine, suppuration at the site of the incision often occurs; the wound shows a tardy disposition to heal; and a hernia is sometimes formed.[10] Typhoid spine, which Professor Osler regards as a neurosis, usually implicates the lower dorsal region.

Dr. Mackenzie[11] has pointed out that the pilomotor nerves, over areas of skin corresponding to Dr. Head's painful areas, are rendered abnormally sensitive by visceral disease; a goose-skin reflex is more readily brought about than in health. The uncovering of a patient's abdomen, and the application of a hand often colder than the patient's skin, are likely to excite the pilomotor reflex; but in the few cases of typhoid fever in which my attention was directed to this point, the reflex was not observed.

The loss of vascular tone in the skin of the reflex zone is striking. In the pre-eruptive stage of the fever, the skin of the abdomen is often uniformly flushed (Jenner, Dreschfeld, Professor Osler). Marey's sign—the *tache cérébrale*—is always vivid in typhoid fever, especially on the abdomen; and I have come to look upon the *tache cérébrale*, and the diminution or absence of the epigastric and abdominal reflexes, as signs of decided value in the clinical diagnosis.

The long latent period, persistence, and slowness in fading of the *tache cerebrâle* point to its being a vaso-dilator reflex: one may assume that the tonic influence of the vaso-constrictors is in abeyance, and that these nerves suffer the same depression in function as the pilomotors, nerves for touch, and nerves supplying the muscles of the abdominal wall.

Some other considerations support this view:

(*a*) The vaso-constrictors follow the same course as the pilomotors, and innervate similar histological elements; it is, therefore, not unreasonable to suppose them similarly affected.

(*b*) The pre-eruptive flush and the branny desquamation sometimes seen over the chest and abdomen during defervescence are signs of vasomotor and trophic disturbance.

(*c*) Perspiration, and the eruption of sudamina, are frequently confined to the abdomen and chest. The secretion of sweat is brought about directly, by the passage of an increased volume of blood through the sweat glands; and unless it be that the sweat-secreting nerves are specially active—an assumption which has nothing in its favour, and which the prevailing state of neural tonus opposes—the eruption of sudamina in the reflex zone is a result of local hyperaemia.

(*d*) Dicrotism of the pulse is very common in typhoid. Curschmann[12] states that it is more common in typhoid than in all the other infectious fevers combined, and is a valuable diagnostic sign. The fall in arterial tension

Table of Observations.

	Average.			Abdominal Reflex.		Epigastric Reflex.			Average Liminal Distance.	
	Age.	Day of Disease.	Temperature.	Normal.	Diminished or Absent.	Normal.	Diminished or Absent.		Intrazonal.	Extrazonal.
				Per cent.	Per cent.	Per cent.	Per cent.			
1. Typhoid (27 cases) ...	21.9 years	15 9	101 9°	22.2	77.7	22 2	77.7	23 cases	5.64 cm.	3.74 cm.
2. Other febrile diseases (27 cases)	21.6 years	12.6	102.4°	77.7	22 2	77.7	22.2	23 cases	4.01 cm.	3 70 cm.

which it denotes is probably due to reflex paresis of the splanchnic vaso-constrictors in the abdominal cavity.

(*e*) The frontal headache of ingravescent typhoid is not referred intestinal pain. Dr. Head has found that frontal headache of visceral origin arises from disorder of thoracic viscera, and he does not mention the headache of typhoid in his enumeration of visceral headaches and other pains referred to the distribution of the cranial nerves. The frequent occurrence of epistaxis during the onset of the fever suggests that the headache is congestive; and its automatic subsidence in the second week of the fever agrees in point of time with the appearance of dicrotism in the pulse.

The *tache cérébrale* reaches its greatest intensity about the beginning of the second week, and continues in that phase during the eruptive period. As the rose spots cease to appear, the *tache cérébrale* becomes less vivid; during the decline of the fever it tends to disappear. It can, however, often be elicited in a modified degree after the temperature has become normal.

In his Croonian Lectures,[13] Dr. Cayley says that he has "long looked on the persistence of the *tache cérébrale* as indicating that the intestinal lesions have not yet healed;" which is tantamount to what I wish to maintain—that the inhibition of the vaso constrictor and other nerves in the reflex zone in typhoid fever is due to the reflex incidence on them of specific impulses originating in the small intestine, mesenteric glands, and spleen. The bearing of this proposition on the production of the rose spots may be briefly discussed.

The rose spots do not appear until the depression of the vaso-constrictor fibres has become well established, and the specific agglutinins in the blood have become demonstrable by the Gruber-Widal reaction. As the arterioles relax, the blood pressure in the terminal capillaries becomes increased, and the circulation retarded. It is also possible that, the endothelial cells of the capillaries being weakened by the depression in function of their intrinsic nerves, the increase in blood pressure brings about some passive dilatation.

The influx of a greater volume of blood to the skin in the reflex zone brings a correspondingly greater number of bacilli to the cutaneous capillaries, where the sluggish flow of blood, and the impaired resistance of the endothelial cells, permit them to loiter in the capillary network. There they are joined by others; the agglomeration being due partly to the inherent tendency of the bacilli to compose themselves into groups whenever possible, but chiefly to the clumping power of the blood as the agglutinins come to be liberated therein. The assembly of bacilli thus formed sets up inflammation, which becomes visible as the circular, slightly raised rose spot, fading on pressure. Bacteriolysins continue the work begun by the agglutinins, and, in a little time, the assembled bacilli are devitalized, dispersed, and disintegrated; the point of inflammation subsides, and the rose spot fades.

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THE American Association for the Study and Prevention of Infant Mortality, organized at the convention recently held in New Haven, Connecticut, has established permanent head quarters at the Medical and Chirurgical Faculty Building in Baltimore, where it will begin active work. We learn from the *Boston Medical and Surgical Journal* that the president of the association is Dr. J. H. M. Knox, of Baltimore. Dr. William H. Welch, of Baltimore, is chairman of the section on federal, State, and municipal prevention; Dr. L. Emmet Holt, of New York, chairman of the medical section; Dr. Helen C. Putnam, of Providence, of the educational section; and Dr. Hastings H. Hart of the section on philanthropic prevention. Membership in the association is not limited to doctors, but will be open to teachers, publicists, philanthropists, and sociologists.

A NOTE ON THE VALUE OF BALL'S OPERATION FOR PRURITUS ANI.

By PATRICK LEIGHTON, M.D.,

HONORARY MEDICAL OFFICER, ELTHAM COTTAGE HOSPITAL.

I VENTURE to record the following two cases, on which I operated this year, as since endless remedies have been tried for this horrid affection none are a certain cure.

Before recommending the operation devised by Ball, I take it for granted that any local cause has been excluded, such as eczema, paralysis, etc. It is just those cases, as we all know, where we can find no local cause, that are the most difficult to cure. I am aware that there are some surgeons who maintain that there is a cause in every case, and that we have overlooked it in our examination.

The malady is looked on as a neurosis, and the interesting point is that if we give the nerve terminations in the skin a rest by dividing the trunks, the vicious circle is broken, and the itching does not come back even after sensation is re-established.

Some authors state that the operation should not be lightly undertaken, and it is to encourage other men in general practice like myself to cure their patients by it that this note is written.

The two main complications that may follow the operation are sloughing of the flaps and sepsis. The first may with care be avoided; the second is difficult to prevent, but does not in any way interfere with the result.

The cases were prepared as for a pile operation. The first came into hospital four days, and the second two days, before operation. Frequent bathing of the anal region in weak Jeyes' fluid was used in both cases. The parts were shaved, and 2 grains of opium given the night before. The rectum was washed out with boric lotion the following morning. In Case II there were some cracks and excoriations which I think had something to do with the sepsis that followed, even though pure carbolic acid was applied to them when the patient was on the table. Sir Charles Ball's method was followed, as is described in his book on the rectum.

The following details seemed to be of value:

(*a*) After putting the patient in the exaggerated lithotomy position, the covering of the table was folded so as to raise the pelvis, the end of the table being also a little raised. This position was a great help in undercutting the posterior pedicle (the only difficult part of the operation).

(*b*) A plug of gauze on a string in the rectum to prevent soiling if the patient strained, as they both did, the anaesthetic, C.E., being badly taken by both.

(*c*) In cutting the flaps care should be taken to include a layer of subcutaneous tissue in order to ensure the vitality of the skin, and thus avoid sloughing; buttonholing the anal canal leading to fistula is also avoided. The sutures of fishing gut were left long and twisted in a bunch on each side to prevent pricking.

The dressing was cyanide gauze. I intend in my next case to use a picric acid dressing to dry up the skin, as I am sure the moisture of the region encourages sepsis. The bowels were kept confined for four days, and not much food given.

In one case the wounds healed by first intention, the sutures were taken out in a week, and at the end of a fortnight he was able to sit. Considerable ecchymosis appeared on the third day over both buttocks, but in no way interfered with the healing. In the second case suppuration occurred in both wounds, but was healed in three weeks.

Both were men about 40 years of age, and the itching had persisted for three years. One had had his sphincter overstretched, with no benefit. They were unable to sleep at night, and were looking wretched in consequence.

One man is a harness maker, of a very placid disposition; the other has a good position in a bank, as well as being a tenor of no mean ability, but, like many tenors, very neurotic. He was losing his memory and completely demoralized by his complaint.

The result in both cases was more than gratifying—immediate relief. The second patient told me that the night after the operation was the first peaceful one he had

had for two years. Both told me the parts felt quite numb when I last saw them.

In conclusion, I wish to thank Drs. Sandford Smith and Milton, who kindly gave the anaesthetics, also the Matron (Miss Fry) and the nursing staff, for their able assistance at the time and in after-treatment, which is most important.

THE USE OF ADRENALIN IN ACUTE ASTHMA.

BY

CRAUFURD MATTHEWS, M.B., CH.B.VICT. AND LEEDS,

COLWYN BAY.

IN the BRITISH MEDICAL JOURNAL, October 1909, I wrote, in answer to a query by a correspondent, giving shortly my experience of the uses of adrenalin in asthma. Since that date I have had further opportunities for observing the effects of this treatment, and I now feel justified in writing a short account embodying the results I have obtained.

In October, 1907, my attention was first directed to the possible value of adrenalin in acute asthma by the relief quickly afforded by cocaine in this condition; and arguing from the similarity of effect produced by the application of adrenalin solution and that of cocaine on the nasal mucous membrane, I decided to give adrenalin a trial in a very acute case which I then had under treatment.

CASE I.

A young man, aged 23, had been suffering from asthma for several years, and had been in the habit of cutting short the attacks by the use of a preparation containing cocaine, which never failed to afford him instant, though temporary, relief.

On examination I found the heart very much weakened by the repeated attacks, and there was a considerable degree of dilatation; the slightest exertion brought on palpitation and shortness of breath, and he could only with the greatest difficulty get upstairs.

Considering the further use of the preparation to be contra-indicated by the relatively large amount of cocaine contained, I ordered him, during his first acute attack after coming under my care, to spray into the nose a solution of adrenalin chloride, 1 in 2,000. Within ten minutes of the first application of the adrenalin he was completely eased, and remained so for the remainder of the day. Subsequently, during each attack, he used the spray with complete success. If the attack threatened to be exceptionally severe the solution used was of the strength of 1 in 1,000, or if milder, 1 in 4,000 was sufficient. The patient quickly learnt by experience what strength would be needed, and when I last saw him he informed me that he was carrying about with him a bottle of adrenalin solution, 1 in 1,000, in case of further attacks.

CASE II.

Shortly after this I was called to a lady, aged 48, who was in the throes of a very acute attack. I had taken with me a bottle of adrenalin solution and a small spray, and promptly applied the adrenalin in the strength of 1 in 1,000, with the result that the attack, which had been continuous for several hours, was at an end in ten minutes; in a few more minutes the patient was sleeping comfortably. Subsequently this patient informed me that she had on several occasions repeated the spray, and in each case the results had been equally satisfactory.

From that time until the present I have used the adrenalin solution in every case of acute asthma which has come under my care; and in every case, now 13 in all, the results have been immediate relief, lasting for longer or shorter periods. In none of these patients have I observed any undesirable after-effects.

The last two patients on whom I have used the solution have had to continue the treatment at shorter intervals than in any previous instance.

CASE III.

Miss M., aged 21, had suffered from acute asthmatic attacks for fifteen years. The attacks came on nightly, lasting four or five hours, but every fourteen days the attack was of much greater severity and continued for twenty-four hours or longer. The heart was dilated and feeble, and when I first saw her she was very ill. The attack had then lasted from 1 a.m. until 4 p.m., but within five minutes of spraying the nose with a solution of 1 in 2,000 she was much more comfortable, and within fifteen minutes the attack had absolutely passed off.

Subsequently this patient had attacks nightly, which regularly woke her between 1 a.m. and 2 a.m. Dieting and the usual remedies produced no effect, and she used to have within reach a spray ready charged with 1 in 2,000 adrenalin solution, with which she cut short each attack at its commencement and was assured of a good night's sleep. After some weeks the attacks, which had been becoming gradually less severe, ceased entirely.

CASE IV.

Mrs. H., aged 55, a highly-strung gouty and neurasthenic patient, had suffered for years from repeated attacks of acute asthma. She could not take belladonna, and no other drug seemed to produce any effect on the condition, though she obtained some relief from burning ozone papers. Unfortunately the effort of sitting up in bed and lighting the paper made the attack much more severe.

After a very acute attack, during which I used the spray with instant relief, this patient has always slept with a small nebulizer ready charged with the solution. When roused by an attack she immediately uses the spray, and after a few minutes is able to sleep again. She is frequently roused in damp weather three times during the night, but in spite of the frequent use of the adrenalin solution I have observed no ill effects therefrom.

I have never used the spray in any other form of asthma but that which I should call acute spasmodic asthma, but my friend, Dr. W. B. Russell, to whom I mentioned the treatment, informs me that he has employed it in the case of an elderly gentleman in whom the attack was undoubtedly uraemic in origin. In this case also complete, though only temporary, relief resulted.

As to the mode of action of adrenalin in these cases, I must confess that I have so far not arrived at any conclusion. My first two patients both showed some degree of hypertrophic rhinitis, and I was inclined to think that the temporary relief of the local engorgement of the nasal mucous membrane might have caused the sudden termination of the attack by doing away with a source of peripheral irritation. None, however, of my later patients have shown any signs of nasal trouble, so that this theory has had to be abandoned.

In a condition of this sort suggestion undoubtedly plays a considerable part, and I formed the opinion that in a certain number of the cases this might account for the results obtained. This was more especially my view with regard to the last patient, but on one occasion when she complained of pain and irritation arising from haemorrhoids I gave her some adrenalin suppositories; it had escaped my memory that she was in the habit of using adrenalin for her asthma, but at my next visit she informed me that she inserted the first suppository during a mild attack of asthma, and to her surprise not only was the rectal irritation removed, but the asthma abruptly terminated. As the patient had no idea of the nature of the suppository, and as she frequently suffers from rectal irritation without any traces of asthma, there seems to me to be little doubt that in this instance adrenalin absorbed by the rectal mucous membrane acted in the same manner as when absorbed by the nasal mucosa.

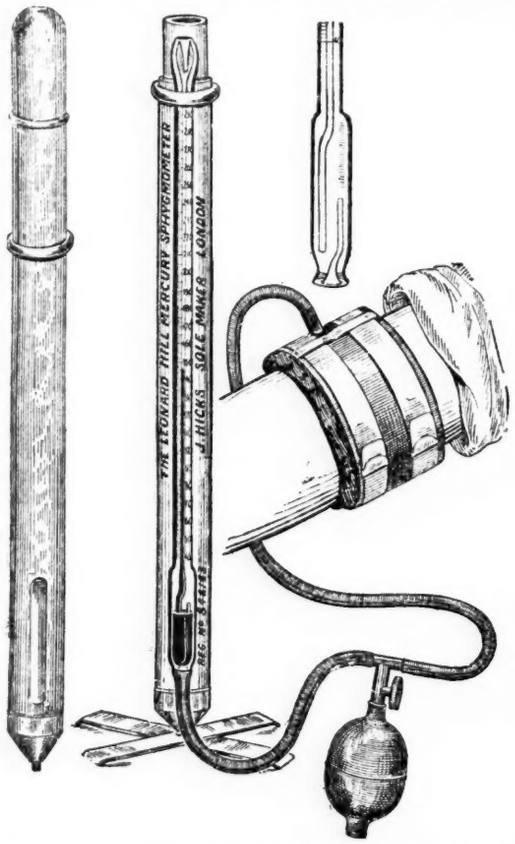
In the *Medical Review*, June, 1909, there appear extracts from an article by N. V. Jagic embodying the results obtained by the subcutaneous injection of adrenalin solution in acute asthma, as practised also in America. He suggests that adrenalin may act by causing a temporary depression of the vagus, whilst stimulating at the same time the sympathetic nervous system. The results obtained by Jagic seem to be very similar to those which I have observed from the nasal spray; and considering the dislike that most patients not unnaturally have for subcutaneous medication, I think the method I employ is less likely to be resented.

AT the meeting of the Zoological Society of London on February 1st, the Secretary read a letter from Captain J. A. M. Vipan, F.Z.S., which suggested that the probable cause of the immense numbers of the freshwater Cyprinodont fishes known as "Millions" (*Girardinus poeciloides*) in Barbados, and their consequent agency in suppressing malaria by destroying mosquito larvae, was the absence of other freshwater fishes in that island. The writer added that in his opinion there was no specific distinction between *G. poeciloides* and *G. guppii* of Trinidad, and that *Poecilia reticulata* (Peters), of Venezuela, was the same fish. The presence of other freshwater fishes in these localities prevented extensive multiplication of these small fishes, with the result that they had no effective action in keeping down mosquitos.

A NEW FORM OF MERCURY SPHYGMOMETER.

By LEONARD HILL, M.B., F.R.S.
LECTURER ON PHYSIOLOGY, LONDON HOSPITAL MEDICAL SCHOOL.

WHILE engaged recently in an investigation of the equality or difference of pressure in the arm and leg arteries—an investigation which showed a marked difference in all cases of aortic regurgitation[1]—I contrived a new and convenient form of mercury sphygmometer. This mercury manometer consists of a single tube, the lower end of which is sealed into a small reservoir, and opens near the bottom of this, as is shown in the enlarged figure of this



part of the instrument. The armlet tube is attached to the end of the glass tube, which is also sealed into the reservoir, and opens into the upper part by a capillary opening. A small quantity of mercury is introduced into the reservoir. When the pressure is increased air is forced into the reservoir, and the mercury is driven up the manometer, and registers the pressure on a scale in millimetres of mercury. The slight fall of the mercury in the reservoir is taken count of in the graduation of the scale.

When in use the manometer is fastened to the wooden thermometer case in which it is carried by a rubber ring, and a simple little brass foot is screwed on the end of the case, and supports it in the vertical position. The brass foot folds up, and goes into the case beside the manometer.

The advantages of the instrument are:

1. A single tube; this halves the errors of reading the ordinary double-tube manometer.

2. Owing to the capillary opening, the mercury does not spill. No rubber caps are required to close the manometer, and it can be carried in its case in any position.

3. Portability. No box is required; the wooden case, armlet, and bulb can be thrown into a handbag, and thus carried conveniently.

Mr. Hicks, of 8, Hatton Garden, made the instrument for me.

REFERENCE.
[1] *Heart*, No. 1, 1909.

THE Society of Laundry Engineers is arranging to hold an exhibition at the Royal Agricultural Hall, London, in April next, to illustrate the advances made in laundry machinery, and in the equipment of public baths and similar institutions.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

CARCINOMA IN THE MALE BREAST.

ON March 29th, 1906, a labourer, aged 57, consulted me as to a tumour, about the size of a marble, in the left breast. He complained of no pain, and the tumour caused him no discomfort, but, as he was then under treatment for a broken arm, and for that reason incapacitated from work, I removed the tumour under a local anaesthetic. It appeared to be an ordinary fibro-adenoma; no glands were to be felt. No microscopical examination was made, and I confess that the possibility of the growth being malignant never crossed my mind. In October, 1909, three and a half years or so after the operation, he consulted me again about the same breast. I found another tumour, about the size of a pigeon's egg. The skin over it was red, oedematous, acutely tender, and adherent. The patient attributed this to friction from his clothes, and under hot fomentations the redness and oedema rapidly disappeared. In the axilla one movable tender gland could be felt. The history was that for the first six months or so after the operation all went well, but he then noticed that the lump was recurring. He, however, continued his work for two and a half years, and it was not until the breast had become acutely painful that he consulted me again. During these intervening years he says he lost about 2 st. in weight, but only latterly had he felt really unfit for work. He was a big, powerful man, and there was not much obvious wasting. Bearing in mind the fact that the tumour had recurred, that it was adherent to the skin and immobile, that one gland could be felt in the axilla, and that the patient said he had lost 2 st. in weight, my suspicions were aroused that the tumour might be malignant. On the other hand, the rarity of carcinoma in the male breast, the length of time—two and a half years—that the tumour had been growing, its comparative smallness, and the fact that all the symptoms, with the possible exception of the loss of weight, might be due to an inflamed fibro-adenoma or other innocent growth, made the diagnosis, in my opinion, indefinite. I removed the tumour widely, and all its surroundings, but, in view of its doubtful nature, did not feel justified in doing more. The Clinical Research Association reported as follows:

> This tumour is a carcinoma composed of epithelial masses in a fibrous stroma. Its general character is that of a scirrhus. It infiltrates all adjacent tissues, but does not actually invade the underlying muscle.

The wound soon healed, and I advised the patient to submit to what I trust will be the last operation, when both pectorals were removed and part of the serratus and rectus muscles, the supraclavicular fossa was explored, but no glands could be found, and the axilla (where was a large mass of glands) was cleared out. The report on specimens of the breast and gland was as follows:

> *Small Pieces.*—Two hard fibrous masses connected by loose tissue. Sections cut of both pieces, and both show dense fibrous tissue with numerous collections of small round inflammatory cells. Also many connective tissue cells containing blood pigment. *No new* growth is to be seen.
> *Gland.*—This shows typical carcinoma. The cells are contained in well-marked alveoli, and are spheroidal for the most part.

Caton, Lancaster. F. M. BINGHAM, M.R.C.S., L.R.C.P.

TICK FEVER IN NYASALAND.

REFERRING to a memorandum by Dr. Hearsey on Tick Fever in Nyasaland (October 2nd, 1909, p. 986), I think it well to record its prevalence in the neighbouring district of North-Eastern Rhodesia.

In this small hospital, out of 120 in-patients for one year there were 35 cases of tick fever microscopically diagnosed. Many of these came from travelling caravans from all the surrounding districts. There were three fatal cases, one on the day of admission, which was the third day of the fever; one on the first day of the illness, without rise of temperature, though spirochaetes were very numerous and even in tangles; and one on the fourth day of fever in spite of all treatment.

There were no cases of so-called Tanganyika blindness, to which Dr. Hearsey refers, but one case became totally deaf during a relapse and has not recovered. In the only case occurring during pregnancy abortion took place. Otherwise the symptoms were much as have been described already by others.

JAMES A. CHISHOLM, D.T.M.Liverpool.
Mwenzo Mission Hospital, Fife, N.E. Rhodesia.

FRACTURE OF TIBIA AND FIBULA BY DIRECT VIOLENCE.

THE following case—a fracture of the tibia and fibula—occurred in a young soldier as the result of direct violence through coming down flat on the foot while at physical training (voluntary exercise).

W. G. B., recruit, aged 17, was admitted on the evening of October 4th, 1909, with a history of having come down awkwardly on his feet while doing voluntary gymnastics, and having "sprained" the right ankle. The swelling was very great, and it was impossible to make out any fracture by manipulation. A skiagram was taken at once, but nothing very definite could be made out. Hot foot-baths and lead lotion was used locally. On October 8th another skiagram was taken, from which the accompanying diagram has been made. It showed that the epiphysis and a wedge-shaped piece of the tibia had been separated from the foremost part, and that there was a diagonal fracture of the fibula in the same direction. The force was evidently communicated direct through the astragalus to the posterior part of the articular surface of the tibia. With Croft's splint, massage, hot baths to the foot, and passive movement, a perfect result was obtained.

Tracing taken from skiagram plate.

As the accident seems to be somewhat peculiar, and the ill effect of landing flat on the foot while doing gymnastic exercises is well illustrated, I think the case worthy of publication.

D. MCNABB,
Fleet Surgeon, R.N.
Royal Marine Infirmary, Deal.

LONG INCUBATION IN BERI-BERI.

IN July last I was asked to see a Chinese labourer on a banana plantation in Fiji. On examination I found the knee-jerks absent, ataxic gait, muscular pain on movement of the legs, firm oedema round the ankles, hyperaesthesia of the calves, slight ankle drop; there was no anaesthesia; the arms were weak but not ataxic, and there was no tremor. The eyes were normal. There was no bladder trouble, and the urine, though slightly diminished in quantity and of high colour, contained no abnormal constituent and was of normal specific gravity. The heart was slightly dilated and the first sound was rather prolonged, but there was no definite murmur. There was epigastric, suprasternal, and carotid pulsation. The lungs were normal.

He had been two months in Fiji, and his trouble began three weeks before I saw him, with weakness of the legs. His voyage from China took one month. He had never suffered similarly before, but in Canton, where he had been previously working, many of his fellow labourers had similarly suffered. While he was in China he was in the habit of drinking the water in which the rice was boiled, but had not done so in Fiji.

Assuming as I did that this was a case of beri-beri, a disease which is not endemic in Fiji, and of which there were no other cases, the incubation period must have been at least two months. He was under my care for one month, during which he improved slowly but steadily; but unfortunately his employers—also Chinese—against my advice sent him back to Canton as useless.

PAUL J. VERRALL, M.B., B.C.Cantab.
Late Medical Officer, Fiji Islands.

Reports
ON
MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

CHRISTCHURCH HOSPITAL, NEW ZEALAND.

RUPTURED GASTRIC ULCER IN A WOMAN AGED 64.

(By P. CLENNELL FENWICK, F.R.C.S.E., F.R.G.S., Honorary Surgeon to the Hospital.)

M. C., aged 64 years, was admitted on November 19th, 1909. She had suffered from indigestion for several years, but had been in good health for some months previous to this attack.

On November 17th she was seized with a sudden pain in the "pit of the stomach," shooting into the chest and throat. She passed a black motion a few hours later, and vomited three times during the next twenty-four hours. No blood was seen in the motion or vomit.

On admission she was collapsed, the pulse being 102, very thin and thready, temperature 97°, face pale and clammy, expression anxious.

The abdomen was much distended, resonant in front, dull in the flanks; the resonance in the flanks altered on change of position. Great pain was complained of in both flanks, and on pressure on the epigastrium. Dr. Westenra, my colleague, saw the case in consultation with me, and we agreed that there was a perforation of the stomach, and advised immediate operation.

The patient was very stout, and about 2½ in. of fat had to be cut through before reaching the peritoneum. On incising the latter, a gush of foul-smelling liquid escaped. The liver was very large, reaching to the umbilicus, and was covered with thick adherent flakes of lymph. The incision was extended downwards, and the edge of the liver lifted, exposing the stomach, in the anterior wall of which was a perforation the size of a threepenny piece. The peritoneum was curiously oedematous, and hung in folds. All the intestines were covered with adherent flakes of lymph. The perforation was closed with three silk sutures, and a fold of peritoneum was stitched over the stomach wound. Three tubes were inserted into the abdominal wound, one pointing down to the perforation, one upwards in front of the liver, towards the diaphragm, and the third passed down into the right renal fossa. A fourth tube was placed in Douglas's pouch through a suprapubic incision. A great quantity of foul liquid was removed. Saline was given by the vein, as the patient was collapsed.

For the next four days the patient was given nutrient enemata and a few ounces of albumen water by the mouth. She complained greatly of faintness. The bowels moved daily, I supposed by the action of the nutrient. No vomiting occurred, and the pain was not severe.

The tubes were removed on the ninth day after operation, and the patient appeared well over the worst. There was a constant discharge of black liquid through the tubes. The amount of fluid by the mouth was increased daily, as the nutrient enemata caused irritation.

On December 5th, fifteen days after operation, the patient died suddenly in her sleep. Dr. Crooke made a *post-mortem* examination, and found the whole peritoneal cavity the seat of intense peritonitis; the stomach was watertight and the perforation wound healed.

I think this case unusual with regard to the age of the patient, and the great improvement which occurred after operation, despite the continued peritoneal inflammation. There was no intestinal paralysis or vomiting, and death was due apparently to heart failure.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

ULSTER BRANCH.

Belfast, Thursday, January 27th, 1910.

Dr. ST. GEORGE, and subsequently Sir JOHN BYERS, M.D., in the Chair.

Sympathetic Ophthalmia.

MR. WYCLIF MCCREADY (for Dr. W. M. KILLEN) showed a boy aged 8 years, whose eye was severely injured by a tear across the cornea through the lens and into the ciliary region on November 14th, 1909. The injured eye was enucleated on account of pericorneal redness appearing in the other eye on December 22nd. Sympathetic iridocyclitis commenced in the remaining eye two days after the operation. The treatment adopted was mercurial injections and the free use of atropine drops and ointment till January 11th, 1910. It was found very difficult to keep the pupil dilated, and vitreous opacities in the ciliary region were manifest. Vision deteriorated to about $\frac{1}{4}$. On January 11th Dr. Killen injected 1,500 units of antidiphtheritic serum, in the patient's back, in the hope that an animal serum might give some protection. Twenty-four hours later the eye lost all its scleral redness, and the pupil remained widely dilated, and had remained almost so, till on January 27th the vision was $\frac{6}{18}$ and the vitreous opacities very much less. The only other treatment after injection was increasing the strength of the atropin solution to 8 grains to the ounce. The treatment of sympathetic ophthalmitis by drugs was so very unsatisfactory, and the usual result so dreadful, that one would like to see ophthalmic surgeons try the different antibacterial serums on a large scale.

Epithelioma of the Cornea.

Dr. CECIL SHAW showed a case of epithelioma of the cornea in a man of about 40. It began at the corneal margin shortly after an injury by mortar, and had slowly invaded the cornea for the past two years, now covering about half that membrane.

Coli Infection after Childbirth.

Sir JOHN BYERS and Dr. TOM HOUSTON gave an account of a case of *coli* infection occurring in a patient after childbirth. On the thirteenth day after a normal delivery for the first time the patient had a sudden rise of pulse and temperature, which a careful urinary and blood examination showed was due to the presence of the colon bacillus, and which yielded to treatment by injection of a *coli* vaccine. The paper was discussed by Mr. R. J. JOHNSTONE.

Pernicious Vomiting of Pregnancy.

Sir JOHN BYERS read a paper based on an experience of eight cases of pernicious vomiting of pregnancy, which he defined as vomiting so severe as to interfere with the taking of food, or so severe as to cause marked progressive emaciation. The cases were classified under three heads: First, reflex, where a careful abdominal and pelvic examination showed the presence of some condition the removal or treatment of which was followed by a cessation of the sickness and vomiting; second, neurotic, or a condition due to a true neurosis, like hysteria; and third, the toxic form, due to some poison as yet undiscovered either as to its character or origin, but which in fatal cases was associated with marked lesions in the liver. Sir John Byers believed in severe types of either the neurotic or toxic vomiting of pregnancy; it was not possible, clinically, to distinguish in a given case to which category it belonged except by a careful and thorough organic analysis of the urine, as to the ammonia coefficient. In the toxic type of vomiting the amount of nitrogen excreted as ammonia is greatly increased, and, instead of being 3 to 5 per cent. of the total nitrogen of the urine, it may rise to 30 or even 40 per cent. He agreed with Whitridge Williams that if this ammonia coefficient rose to 10 per cent. one might conclude the case was toxic, and one should empty the uterus as soon as possible. This urinary test gave the best means of diagnosing a case of toxic vomiting from one of the neurotic type. Nothing was yet known as to the explanation of these toxic cases; they might represent an excessive acid intoxication of the blood, or they might be due to some disturbance in the metabolism of the liver, depending on the absorption of a toxic material from the intestine which prevented the oxidation of ammonia into urea. Such cases showed the value of bringing into consultation with the obstetrician the physiological chemist, and indicated how much such a combination might clear up and crystallize views as to such obscure conditions as pernicious toxic vomiting and eclampsia.

Wharton Hood's Treatment of Fractured Clavicle.

Mr. T. S. KIRK gave a demonstration of this method, which he said he had used since 1902, when it was described in Hood's book on the *Treatment of Injuries*. Sayre's method, and most other methods of treating this injury, worked on the principle of trying to bring the outer mobile fragment into apposition with the inner and more fixed one. In Hood's method the outer end of the inner fragment was pushed downwards and backwards by strapping, the scapula was slightly fixed, and the arm steadied by a sling. Three pieces of strapping were used, each $1\frac{1}{2}$ in. wide, and were applied from before backwards, reaching from just above the nipple to 2 in. below the angle of the scapula. The first piece passed over the seat of fracture and the others overlapped it on each side. The head should be inclined to the injured side and the shoulder pushed up while the strapping was being applied. The bony results obtained by this method were certainly as good as those obtained by any other, and it was an exceedingly simple matter applying and reapplying strapping. With this method the patient could enjoy perfect cleanliness and comfort, the axilla, chest, and arm being easily washed, and passive movements of the elbow and shoulder and massage could be carried out daily, so that no stiffness of the shoulder or arm ensued, and from the first the arm could be put into a loose sleeve.

Treatment of Neuritis.

Dr. W. J. MAGUIRE read a paper on this subject. He wished to draw attention to a few points in the treatment of neurotic conditions by Schlösser's method, being a recent one introduced in 1906. It depended upon the introduction of fat solvents into the sheath of nerve in a state of neuritis, by means of which the pathological non-phosphorized fat was dissolved or rendered more easy of removal. The solution usually employed had the following formula: Beta eucaine gr. ij, alcohol abs. 3vj, aq. destil. ad ʒj; 2 c.cm. to be used as an injection. The addition of ʒij of ether to this solution he had found to be an improvement in acute cases of sciatica, lumbago, and peripheral facial neuritis. The syringe which he used was that most frequently employed in the treatment of trigeminal neuritis, with one or two modifications which he had introduced in this instrument. It consisted of a strong needle 10 cm. long, 1.5 mm. bore, and graduated into centimetres up to 5 by alternate marks, extending only halfway round. By this device there was less risk of the needle breaking than if the markings extended round the whole circumference—an accident which might occur by sudden closure of the patient's jaws when operating in the vicinity of the foramen ovale or foramen rotundum A blunt-pointed stylet could be passed through the needle so that its point just projected beyond the extreme end of the needle. He had added a bayonet catch to keep the stylet firmly in position, thereby rendering all the fingers available for guiding the instrument through deep structures. The syringe, which was all glass and of 2 c.cm. capacity, could be fitted on to the needle. The details of the technique were as follows: All antiseptic precautions being taken as to the site of puncture and the instrument, the needle was passed through the skin to the required depth, the syringe, already filled with solution, attached, and the injection slowly made. The injections might be given each day or alternate days, as required, for a week at a time. A few hours after an injection the patient would usually say that the pain was diminished and that the part felt numb, or that there was a tingling sensation. A partial paralysis frequently followed, but this passed off in twenty-four hours. This method of treating neurotic conditions was simple and easy to manipulate. It was

frequently rapid in its curative effects, and, being practically free from risks, it was one which he thought worthy of trial by the general practitioner.

Heart-Block.

Professor LINDSAY read notes of a case of heart-block.

Cardiac Arrhythmia.

Professor LINDSAY also read a note on recent views on the mechanism of cardiac arrhythmia.

The communications were discussed by Drs. CALWELL, FULLERTON, and CLEMENTS; and Professor LINDSAY replied.

Reports of Societies.

MEDICAL SOCIETY OF LONDON.

Monday, February 14th, 1910.

Dr. SAMUEL WEST, President, in the Chair.

Curettage.

Dr. VICTOR BONNEY, in a paper on the diagnosis and treatment of haemorrhage from an unenlarged uterus, said that curettage as a treatment for uterine haemorrhage was a very successful operation when carried out in proper cases, but its illogical use was followed by many failures. Where the cause of the bleeding was a diseased endometrium, its erasion was obviously the rational course, but if the deeper parts of the uterine wall were at fault, or the haemorrhage was due to excessive size of the menstrual area, or where no organic disease existed (functional haemorrhage), curettage was an altogether irrational proceeding. The unauthorized use of the word "endometritis" to cover all cases of uterine haemorrhage not due to new growth was much to be regretted, because it divorced surgery from pathology, to the detriment of the former. It was true that one sometimes saw cases cured by "curettage" where no pathological justification for the operation appeared to exist, but illogical successes in treatment were met with probably more frequently in gynaecology than in any other department of medicine and surgery. Curettage, then, was likely to be successful where definite endometrial hypertrophy, inflammatory or otherwise, was proved to exist. Where the curette removed nothing and scraped hard and rough on the uterine wall the probability of the operation doing any good was slight. In such cases diffuse fibrotic metritis was probably present. Curettage was contraindicated in cases of functional haemorrhage except as a last resort and in full understanding of the empirical nature of the remedy. For myomata it was a bad proceeding, very liable to fail, and associated with a definite risk, both immediate as regards the operation, and remote as regards its effects upon the tumour. In regard to electrotherapy, the older methods appeared to be incapable of influencing organic disease, but the modern zinc mercury ionization treatment was a very definite way of directly applying powerful drugs to a diseased area. In this regard it resembled other intrauterine applications, but with the difference that the penetration of the chemicals was probably far greater. A very interesting paper by Dr. Curtis Webb on this subject had lately been read before the Royal Society of Medicine, and he believed that there was a very definite scope for the use of this treatment in certain cases of endometritis, and particularly in those anomalous forms of uterine haemorrhage without obvious pathological lesion, of which he had made mention. That drugs, applications, or electricity could cure those grosser lesions of the uterus and adnexa which resulted in haemorrhage no one who was accustomed to view them through an abdominal incision could for a moment conceive.

SOUTH-WEST LONDON MEDICAL SOCIETY.

Wednesday, January 12th, 1910.

Dr. M. G. BIGGS in the Chair.

THIS was a clinical meeting at the Bolingbroke Hospital, the following being among the cases shown by members of the staff. Dr. CAMPBELL THOMSON: (1) A man with *Cerebellar tumour*, who had been trephined. The tumour could not be removed, and symptoms had only been partially relieved. (2) A case of *Locomotor ataxia of bulbar type*, which had been shown before the society several years previously, when the only symptoms present were ptosis and weakness of the palate. Diphtheritic paralysis had then been suggested as a diagnosis, but no evidence of that cause could be found. Since then Argyll Robertson pupils, loss of knee-jerks, and "girdle pains" had slowly appeared, and in that order. Lastly, the appearance of "lightning pains" had established the diagnosis. Mr. SAMPSON HANDLEY: A woman, aged 36, who had had very extensive *Carcinoma of right breast*, with enlarged glands in both axillae and in the right supraclavicular region. Some resistance being felt in the lower abdomen an abdominal incision was first made. No growth being found, oöphorectomy was performed, and then the right breast and glands were removed. The glands in the left axilla were left and disappeared gradually. Three years had elapsed since the operation, and the patient showed no signs of recurrence. Dr. E. A. PETERS: (1) Case of *Chronic deafness* in a young woman in whom cicatricial bands could be seen passing from both Eustachian tubes to the wall of the pharynx. The patient had been operated on for adenoids twelve years before. The bands were considered to be due to the incomplete adenoid operation, in which the fossae of Rosenmüller had not been properly emptied, and, indeed, showed adenoid growth still present. The exhibitor believed the clearance of the adenoids out of the fossae and the removal of the bands would cure the deafness. He pointed out that the ordinary curette or finger was inadequate for the removal of these adenoids, and advocated the use of Meyer's ring knife as a routine procedure in the course of every adenoid operation. (2) A child with *Ozaena* much improved after the large nasal cavities had been constricted by injections of cold paraffin into the septum. Mr. T. M. G. SWAINSON: A case of *Abdominal injury* with excessive internal haemorrhage from a blow received on the football field. The patient was admitted to hospital in a state of great collapse; signs of internal haemorrhage rapidly developed. The abdomen being opened by right rectus incision the peritoneal cavity was found free of blood, but the posterior layer was bulged forwards by a dark mass behind it. Mr. Swainson, owing to the state of the patient, proceeded to make an incision horizontally towards the spine, at right angles to the original wound. A large amount of retroperitoneal clot was let out; the kidney was not observed to be obviously ruptured, but a number of small vessels were bleeding. Gauze plugging was packed tightly into the bleeding cavity, and the rest of the wound hastily closed. The patient eventually made a good recovery, but was compelled to wear a belt owing to the extensive incision that had been made. Dr. LAKING: A case of *Facial paralysis* in child of 6, with no evidence of middle-ear disease.

EDINBURGH OBSTETRICAL SOCIETY.

Wednesday, February 9th, 1910.

Dr. LAMOND LACKIE, Vice-President, in the Chair.

Treatment of Uterine Displacements.

MR. E. SCOTT CARMICHAEL, in a paper on vaginal fixation for uterine displacements, said that he had never in his dispensary practice seen a single case of permanent cure of a uterine displacement by means of pessary treatment. From vaginal fixation he had seen many cures. He had carried out the operation on twenty patients. All but two had passed the child-bearing period, but Dr. Martin, in Germany, operated on younger women with no great risks to any succeeding pregnancy. He personally had delivered two patients previously operated on, and in both cases the labour was normal. The dangers during pregnancy and labour had been greatly exaggerated. Anatomically it was difficult to see why the operation should interfere with the expansion of the uterus or the dilatation of the cervix, yet he had not felt justified, in the face of the adverse criticisms, in employing the operation in private or dispensary patients during the child-bearing period. The technique, as practised by Martin, consisted in making a vertical incision through the anterior vaginal wall, or excising a diamond-shaped area when a marked cystocele was present, then pushing up the bladder, opening the utero-vesical peritoneum, and bringing forward the uterus. Even if adhesions existed in

the pouch of Douglas, they often stretched sufficiently to allow the uterus to come forwards. The level chosen for fixation to the anterior vaginal wall was the junction of the cervix and body of the uterus, about 4 cm. below the fundus. If pregnancy supervened the fixation did not interfere with the expansion of the uterus and the dilatation of the cervix. It was different if fixation at a higher level, as practised by many gynaecologists, was performed, but that was not Martin's operation. The procedure was available for all degrees of displacement, but was best suited for medium cases with slight complications. Dr. RANKEN LYLE thought both operative and pessary treatment should be condemned. In the great majority of retro-deviations no symptoms arose. In a few cases haemorrhage occurred. All the other symptoms were neurasthenic. Cystocele was essentially a sequela of neurasthenia. The patient was continually straining, and so manufactured a cystocele. After operation she forced and pressed down again, and often her last condition was worse than her first. For cases of cystocele with dribbling of urine vaginal fixation might do good, but it was difficult to see how it could lead to any improvement in a case of prolapse of the uterus. Noble's criticism of its effects on pregnancy was sufficient to condemn it in young patients. Dr. HAIG FERGUSON said he had obtained a considerable number of cures by pessary treatment. When more than this was required ventrisuspension was the only safe measure during the child-bearing period. A heavy uterus, fixed by a point just above the isthmus to the vaginal wall, soon sagged back again. To keep it forward fixation had to be done at a higher level, thus leading to danger if pregnancy supervened. Adhesions in the pouch of Douglas constituted another difficulty. Through the incision in the anterior vaginal wall they had to be separated in the dark, and serious lacerations and haemorrhage had occurred. He was unable to understand how vaginal fixation could possibly cure a prolapse or benefit a cystocele. For the latter, Wertheim's operation, which brought the bladder above the uterus, was better. Dr. FORDYCE said prolapse was a descent of the anterior segment of the pelvic floor, and could not possibly be cured by vaginal fixation. Dr. RITCHIE said that anterior fixation was usually spoken of unfavourably. Could any one give information about posterior fixation? Pessary treatment sometimes cured sterility due to retroflexion, and even the retroflexion itself. Dr. LACKIE said that when in Germany he had been struck with the frequency with which the operation was performed. He would like to know the percentage of recurrences. Mr. CARMICHAEL, in reply, said if an operation was adopted, the technique of the originator should be closely followed. Dr. Martin had given statistics of 35 patients in whom pregnancy occurred after the operation. In 29 labour was normal, 5 had complications such as placenta praevia and accidental haemorrhage which were not connected with the operation, and 1 required Caesarean section. In 74 cases of subsequent pregnancy reported by Dührssen, 65 were normal, 9 had complications, but they were not in any instance due to the preceding vaginal fixation. He did not agree that cystocele was a result of neurasthenia. Cystocele was the primary condition, and the symptoms secondary. In vaginal fixation the uterus was fixed forwards, that is, in a position in which it never or rarely ever prolapsed. In a mild case the further descent of the uterus was thus prevented. The operation was not suitable in severe cases of complete prolapse.

Perineal Repairs.

Dr. J. W. KEAY read a communication on a simple perineal operation, as used in cases of prolapsus uteri and for perineal repairs. The essential point was the approximation of the torn ends of the levatores ani by a simple method of inserting the sutures. Without the diagrams by means of which Dr. Keay illustrated the operation, the method does not lend itself to description. He then proceeded to read notes of 5 cases of prolapse in which the operation was performed as part of the treatment. The results compared favourably with cases treated by other methods. The operation could be completed in ten minutes. Dr. RANKEN LYLE said that he never operated for incomplete tear of the perineum. Prolapse was not due to the deficient support of the torn perineal body, but was a true ptosis, resulting, like movable kidney, from neurasthenia. Dr. HAIG FERGUSON expressed appreciation of the simple method of introducing the stitches. He agreed with Dr. Keay that the essential point was to secure the levatores ani and the fascia covering them.

Specimens.

The following were among the exhibits: Dr. R. ROBERTSON: A baby, to illustrate the result of immediate operation for depressed fracture of the parietal bone during delivery. The infant at birth was breathing badly and unconscious. No anaesthetic was required. A large incision was made, and a clot cleared out of the scalp tissues. The bone was hard, and he could not penetrate it with the instruments at his disposal. So he continued the incision back to a suture, and inserted through it a Stiles's dissector and raised up the bone. Convulsive seizures occurred on the opposite side of the body for twenty-four hours, but after that the infant made a complete recovery. In two previous cases he had carried out the same treatment, and one child was now 5 years old and healthy. In one case which was not operated on, hemianopia was present, and the patient was an epileptic. Hence it was important to attend to the condition at once. Dr. HAIG FERGUSON showed drawings illustrating the result of immediate operation in a similar case. He made an incision extending it forward to the coronal suture through which he pushed the blade of a dissecting forceps. The bone returned to its normal position with a snap. The infant made a complete recovery. Mr. CARMICHAEL said he had seen two similar cases at the Sick Children's Hospital. The depression was shallow in each, and gave rise to no symptoms. In six weeks the depressions were obliterated without operation. Dr. W. FORDYCE: Large uterus removed by vaginal hysterectomy for severe flooding after the menopause. Pathologically the condition was one of arterio-sclerosis of the uterine vessels. Mr. SCOTT CARMICHAL: Ovary and Fallopian tube strangulated in the inguinal hernia sac of an infant aged 4 months.

LIVERPOOL MEDICAL INSTITUTION.

Thursday, February 3rd, 1910.

Dr. BRADSHAW, President, in the Chair.

Pathological Meeting.

THE following were among the exhibits:—Mr. NEWBOLT: (1) A small *Contracted gall bladder*, with ulcerated mucous membrane, filled with stones and pus, removed from a lady, aged 56, who had chronic dyspepsia; (2) with Dr. M. ALEXANDER: Two cases of *Pylorectomy for carcinoma* of the pylorus; in one case the growth was colloid, in the other it started at the edge of a deep ulcer. Mr. THELWALL THOMAS and Dr. MACKARELL: (1) Specimen of *Adenoma of the breast* removed from a patient of 27 with colloid degeneration of the intracystic growths; (2) a *Chondrosarcoma of the femur*, from a girl of 17, which had commenced in the internal condyle, and consisted of giant and spindle cells, and much cartilage; (3) a section of *Undescended testicle*, to demonstrate the atrophic character of the tubular epithelium, and emphasize the need for the removal of such structures. Mr. JEANS: (1) The wall of an old *Hydrocele* which closely resembled a giant-celled sarcoma; (2) a *Malignant tumour* growing from an improperly removed sebaceous cyst in a man of 43. Dr. R. J. M. BUCHANAN read a note on *Syphilis* as an important factor in the causation of heart disease. He did not think sufficient attention was paid to its possible effects in this direction during the early manifestations of the disease. After classifying the clinical varieties of cardiac syphilis, the author pointed out the fact that valvular lesions with their accompanying murmurs were the least important feature, and that alterations in rhythm, anginal attacks, and toneless sounds were more often present, these with signs of alteration in size. In all cases of heart disease a careful search should be made for signs of past or present syphilis. If diagnosed or strongly suspected, antisyphilitic treatment should be pushed to the limit of tolerance, accompanied by the ordinary measures for combating heart failure. Even albuminuria and dropsy were no contraindication to the use of mercury. The PRESIDENT said that the possibility of a syphilitic origin of heart lesions, specially where there was no

history of rheumatism, ought always to be borne in mind, and the recognition of such cases was a most important advance. In his experience, however, the commonest seat of syphilitic heart lesions was the aortic valves. As regards the treatment of such cases by mercury, he thought the danger of its administration had been greatly exaggerated—in fact, he had known chronic albuminuria to disappear under its administration. Dr. J. HILL ABRAM said he would have liked to hear more definitely the points which justified a diagnosis of syphilis in this case. He knew nothing more difficult than the differential diagnosis between the various forms of chronic granuloma on histological grounds alone. From the diagnostic side he thought it could hardly be accepted that the "silent heart" meant a syphilitic lesion; surely this simply indicated muscular weakness. Mercury was extremely useful in cases with a definite rheumatic causation, and not only in syphilitic lesions of the heart. Personally, when definite signs of nephritis were present, he thought the use of the mercury preparations was contraindicated. Dr. HAY also spoke, and Dr. BUCHANAN replied.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Thursday, February 10th, 1910.

Mr. G. HARTRIDGE in the Chair.

Clinical Evening.

THE following were among the exhibits:—Mr. J. B. LAWFORD: A case of *Optic atrophy* and oculo-motor palsy due to intracranial new growth. It was one of a small group of cases of pressure atrophy, with failure of vision, which began in the left eye, then came on in the other, eventuating in complete blindness. There was no history of causation. The growth was in close contact with, or near, the pons. There was no gigantism, acromegaly, nor undue deposit of fat. In nature it might be sarcoma or endothelioma; he did not think it was gummatous, and the man had not derived benefit from antisyphilitic remedies. The only effect of thyroid extract was to reduce the rapidity of the pulse and to produce faintness. Mr. JESSOP mentioned two almost similar cases which he had had: one in a lady 52 years of age, whose symptoms started with some retrobulbar neuritis. The other case was in a young man aged 22. Mr. DOYNE also mentioned a case in which the blind eye showed no affection of the disc. In the other eye the optic neuritis was well marked. Mr. LESLIE PATON said that in one such case he had cut sections of the disc of both eyes, and found a growth pressing very definitely on one optic nerve. There was no neuritis in the eye which was blind, and vision in the other eye was $\frac{6}{6}$. Possibly the blindness in so-called optic neuritis was not due to any oedematous process in the nerve itself, but to a normal pressure atrophy. Mr. LAWFORD, in reply, said Mr. Jessop's cases did not seem to be median growths affecting both eyes. Mr. E. TREACHER COLLINS: A case of *Lenticonus posterior* with opaque membrane behind the lens, which he regarded as a congenital one. Behind the lens was an opaque membrane, and instead of taking the normal curvature it was depressed into a cone shape. Dr. EDRIDGE-GREEN showed and demonstrated a new form of lantern for testing colour perception, which had now been accepted by the Admiralty. It gave a brighter light than previous patterns, and could be regulated to imitate signals at various distances. Mr. A. C. HUDSON: *Retinal disease* in a boy aged 9 years, who had $\frac{6}{9}$ vision, with full fields. When a month old the patient had a severe illness in which he was unconscious, and two years later he had whooping-cough. In the eye there was some white mottling with white granular material, which seemed to be deep to the retinal vessels; it was chiefly in the macular region. Probably the condition was due to subretinal haemorrhage. Mr. ARNOLD LAWSON mentioned a boy with a similar condition; in this instance it was definitely due to haemorrhage. Nearly all the haemorrhages were lying in the deeper layers of the retina, and in one or two instances the vessels seemed to be buried. Mr. E. BREWERTON: A case of *Bilateral parotitis and cyclitis*, which he believed to be due to some general toxaemia, though he had not been able to find the source of infection. Mr. P. E. H. ADAMS (Oxford) said that in some cases of the condition which he had described he found the infection was from the mouth, the patients having pyorrhoea alveolaris. One patient was aged 20 and the other 56, and in both cases there was keratitis punctata. The eyes subsided simultaneously with the parotitis. Mr. P. FOSTER MOORE: A case of *Hole in the macula*. The vision was $\frac{6}{9}$. Mr. HEPBURN expressed the view that the other eye was already in an earlier stage of the same condition; it might be in the nature of an infarct in the choroidal blood supply. Mr. FISHER thought it improbable that there would be an infarct in the identical pole in each eye.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.

Thursday, January 13th, 1910.

Dr. E. H. DAVIS in the Chair.

AMONG the many specimens exhibited and described were the following:—Professor STUART MACDONALD: (1) Specimens from a case of general *Streptothrix infection*, showing purulent deposits; also the organs of a rabbit inoculated intravenously with a pure culture of the streptothrix isolated in the foregoing case, the resemblance of the lesions to those of tuberculosis being marked. (2) Micro-specimen from a case of *Delayed chloroform poisoning*, demonstrating the fatty degeneration in the heart muscle, renal epithelium, but more especially the liver. Sir THOMAS OLIVER: An *Aortic aneurysm* which had burst into the pulmonary artery, with micro-specimens of the radial artery from the same case showing the thickening of the tunica intima and tunica media. Dr. T. BEATTIE: Micro-specimens from a case of *Acute yellow atrophy* of the liver. There was a history of illness for five weeks; six months previously the patient had had a stillborn child. Mr. H. B. ANGUS: A large *Fibroma of the sciatic nerve* removed by operation from a woman aged 35. Apparently it had existed for five years; latterly the patient could not sit down with any comfort owing to pain caused by the pressure on the tumour. Mr. J. CLAY: *Ovarian cysts* with twisted pedicle from children aged 3 years and 12 years respectively, and a solid ovarian tumour from a woman 6 months pregnant. In each case the symptoms closely resembled appendicitis. Mr. HAMILTON DRUMMOND: Traumatic *Rupture of the pylorus* removed *post mortem* from a boy who fell 30 ft. in between two ships. There was a large amount of free blood in the peritoneal and pleural cavities, a portion of the liver was completely detached, the diaphragm was ruptured on the right side, and the pylorus was ruptured by a vertical tear through the peritoneal and muscular coats. Mr. T. GOWANS: *Rodent ulcer* of outer canthus, excised with the lower eyelid from a woman aged 48. She had had *x*-ray treatment for months, but a temporary improvement had been succeeded by a recurrence. Dr. RANKEN LYLE: Right half of a *Double uterus* containing a macerated fetus. The left section contained a three months pregnancy, and was not interfered with. The patient, aged 23, had been married three years, and had one child. There was a history of twelve months' amenorrhoea, and she was now seven months pregnant. Mr. A. M. MARTIN: Acute *Inflammation of a Meckel's diverticulum*, with a large enterolith *in situ*, removed by operation from a young man. He was admitted with intestinal obstruction and an abscess just below the umbilicus. On opening the abscess the distal end of a Meckel's diverticulum, completely gangrenous, presented itself; this contained a calculus resembling a gall stone. The proximal end of the diverticulum was found in the region of the gall bladder; it was tightly stretched across a loop of small intestine, causing obstruction. The diverticulum was removed, along with a portion of omentum which was adherent to the distal end, and a good recovery ensued. Mr. RUTHERFORD MORISON: Two cases of pedunculated fibroid with twisted pedicle removed by operation. In both cases there was a definite history of repeated twists. One patient was five months pregnant; both did well.

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

Friday, February 11th, 1910.

Mr. A. PEARCE GOULD, President, in the Chair.

THE following were among the exhibits: Dr. STCLAIR THOMSON: Four cases of epithelioma of the larynx after operation to prove the safety of laryngo-fissure. One of them had remained without recurrence for nearly six years; in another both vocal cords were completely removed, and yet the patient had a loud, strong, though harsh voice, and was still free from recurrence two years and four months after operation. In a third case laryngo-fissure had to be followed by complete excision of the larynx, and the patient was enabled to speak and to carry on much of his respiration through his nose and mouth by means of a von Bruns tracheotomy cannula. A fourth case was a male, aged 59, who underwent the operation about a year ago. He was a schoolmaster, who reported that he had been hoarse continually for three or four months, and that his voice had not been good for two or three years. Since the operation he had been able to resume his occupation. He could smoke, and was in good health. Dr. H. MORLEY FLETCHER: Examples of rheumatic nodules in a patient regarded as the subject of gonococcal arthritis. Mr. ARTHUR E. BARKER: A case in which traumatic pancreatic cyst cured by operation was followed twelve years later by medullary leukaemia. Mr. DOUGLAS HARMER: A patient from whom fibrosarcoma of nose had been removed after temporary ligature of both external carotid arteries and laryngotomy.

LARYNGOLOGICAL SECTION.

Friday, February 4th, 1910.

Dr. DUNDAS GRANT, President, in the Chair.

THE following were among the cases and specimens shown: Dr. H. J. DAVIS: (1) A man, aged 53, into whose trachea a piece of bone slipped whilst he was eating ox-tail soup. It found its way into the right lung, and set up pulmonary abscess and empyema; a rib was resected and the abscess drained. Six weeks later the piece of bone was spat out during a fit of coughing. After that his condition improved rapidly, ending in recovery. The case was under the care of Dr. Seymour Taylor. (2) A soldier, aged 30, into whose pharynx a pin 1½ in. long slipped whilst he was sleeping. It became impacted in the oesophagus. It was grasped with forceps but could not be moved; oesophagoscopic examination under anaesthesia proved negative. The pin passed into the stomach and was vomited up the same night on recovery from the anaesthetic. (3) A case of *Laryngeal vertigo* in a man aged 47. Tickling began in the throat; he would then cough for five or ten minutes, become violently giddy, and fall to the ground insensible. The uvula had been removed flush with the palate with some benefit. Though a pipe smoker, the mere smell of cigarette smoke brought on an attack at once. Mr. GEORGE WILKINSON: Photograph of an infant 8 months old whose nose was congenitally deformed by a deep depression in the middle line below the nasal bones, with wide separation of the nostrils and flattening and broadening of the whole feature. The splitting process was traceable from the triangular cartilage downwards as a distinct notch affecting upper lip and premaxillary bone. Mr. STUART LOW: *Lupus of the nose*, hard palate, fauces, and epiglottis in a girl aged 10, shown on account of the early implication of the epiglottis. Dr. DUNDAS GRANT: Extensive *Tuberculosis of the larynx* in a middle-aged man affected with pulmonary tuberculosis. It had been treated with the galvano cautery. The punctures were made into an ulcer on the ventricular band and the infiltrated epiglottis and swollen band once every three or four weeks, and gave immediate and increasing relief, so that almost complete dysphagia was gradually removed. Inhaling equal parts of anaesthesin and orthoform helped in this. Eventually all the ulceration and nearly all the infiltration disappeared.

SECTION OF ANAESTHETICS.

Friday, February 4th, 1910.

Mr. R. GILL, President, in the Chair.

Lymphatism.

ON resumption of the discussion on Mr. BELLAMY GARDNER'S paper on lymphatism (see BRITISH MEDICAL JOURNAL, December 18th, p. 1753), Dr. FARQUHAR BUZZARD drew attention to the analogy between myasthenia gravis and lymphatism. In both conditions the patient might die suddenly. Although many of the myasthenic patients died from sudden cessation of the respiration only, there were others in whom the heart failed at the same time, and with equal abruptness. In more than 50 per cent. of the cases, moreover, there was some enlargement of the thymus gland, while, in addition, clumps of lymphoid cells were found scattered through many of the tissues and organs of the body, especially in the muscles. Abnormalities of the spleen, thyroid, pituitary, and the liver had also been discovered in some instances, but the indictment of these organs had never been so severe as that of the thymus. Dr. RALPH VINCENT considered that the operation was a far more important factor in the causation of death in cases of lymphatism than was the anaesthetic. A mere digital examination of the naso-pharynx was very likely to bring on a convulsion in a child which was subject to convulsions, and an anaesthetic would act rather as a sedative; indeed, really *deep* anaesthesia should actually be a safeguard. The cause of the condition was an error in diet during infancy. Dr. LEVY gave an account of some experiments he had made upon animals while they were anaesthetized by means of chloroform. It was suggested that a committee should be formed, consisting of anaesthetists, pathologists, radiographers, and others, to collect evidence which might lead to some definite conclusions as to the causation, symptoms, and treatment of this and allied conditions.

ASSOCIATION OF REGISTERED MEDICAL WOMEN.

Tuesday, February 1st, 1910.

Mrs. DICKINSON BERRY in the Chair.

THE following were among the cases and pathological specimens shown: Miss GARRETT-ANDERSON: (1) A woman from whom, four years ago, she had removed a large *Lympho-sarcoma* of the small intestine. At the original operation the mesenteric glands were found to be much enlarged, but, during an operation performed eighteen months later for appendicitis, they were seen to have disappeared, and the patient was now perfectly well. (2) A woman with *Tertiary syphilitic ulceration* of the forehead. The ulceration had at one time extensively involved the underlying bone, but healing had now largely taken place. The patient had been under treatment for twelve years, and had required large doses of mercury and iodide. At one time, while still being treated, she had developed gummatous ulceration of the leg. (3) (for Miss Hamilton), A patient showing *Multiple synovial swellings* in connexion with the tendon sheaths over the fingers and wrists, and several subcutaneous nodules on the extensor surfaces of the forearms. The case was considered to be rheumatic. There was no evidence of tuberculosis. (4) (for Miss Aldrich-Blake), A specimen and microscopic sections of a large *Intracanalicular fibroma of the breast*, and microscopic sections of the endometrium from an apparently healthy woman who had been curetted for sterility. The sections showed numerous giant-cell systems, and the case appeared to be one of primary tuberculosis of the endometrium. Dr. MAY THORNE: Drawings and a specimen from a case of *Cyst of the clitoris*. The cyst was of about the size of a turkey's egg; it extended above the clitoris, flattening out the prepuce, and into the right labium minus, which was much hypertrophied. The urethral orifice was elongated, forming a slit about half an inch long. The cyst had been shelled out; it was very thin walled, and contained pultaceous material. Microscopically the wall consisted of fibrous tissue containing in places some tubular glands. Miss HASLAM showed a boy aged 9 with deformities of the lower limbs: talipes equino-varus, flexion of the knees, and crossed adduction of the thighs. He was unable to stand, but walked on his hands. He also had a cleft palate and harelip, which had been operated on.

Reviews.

THE MANAGEMENT OF CHILDBED.

THE greatest advances that have been made in obstetric medicine of late years are in the treatment of the patient during the time denoted by the term which the public by a euphemism apply to the whole process of childbirth, namely, the "confinement." The means whereby a child can be cut up and its mangled remains dragged through a small pelvis are now much the same as they were fifty years ago. Not only are they not improved, but they are in some places less understood; for have we not reviewed in these columns books on midwifery by authors who were not acquainted with Braxton Hicks's cephalotribe, and did not know how to decapitate? Their deficiencies in this kind of knowledge were to some extent compensated for by a better knowledge of surgical technique. But, childbirth over, our knowledge of how to protect the mother from harm during childbed is the great obstetric achievement of the last half-century; and it consists in the application of the discoveries of Lord Lister, supplemented by the researches of modern bacteriologists. Dr. FROMME has written a book, *Die Physiologie und Pathologie des Wochenbettes*,[1] in which these advances are lucidly set forth. Dr. Fromme's aim is limited. His object is to help the family doctor to a knowledge of modern methods, and to give the student a sound foundation, from which he may advance to more minute studies. He does not profess to give an exhaustive summary of the literature of the subject. If the reader wants that, Dr. Fromme refers him to the huge volumes which Professor Winckel has edited, and jocularly entitled a "handbook" of midwifery. Dr. Fromme keeps clear of all matters in which the general surgeon and the general physician are as much concerned as the accoucheur; such, for instance, as operations for the repair of injuries; heart disease, and lung disease in relation to pregnancy and the puerperium; syphilis and its effects, etc. By excluding all these things Dr. Fromme has produced a practical book on a well-defined subject.

We think we may with advantage to our readers put before them Dr. Fromme's opinions on some important matters. He is a convinced advocate of what Dr. Ballantyne, in a recent communication to the Edinburgh Obstetrical Society, called "The Rational Puerperium." He excludes from his general rule cases of exceptionally long labours, of operative delivery, cases in which fever is present, or any other complication. But in a healthy lying-in after a natural labour he advises that on the first, second, and third day the patient should sit up for about an hour morning and afternoon, and that she should get up on the fourth or fifth day. He does not press this on patients who do not feel equal to it. But experience has convinced him that in a natural puerperium the patient is all the better if she gets up soon instead of keeping her bed a long time.

Methods of procuring asepsis by antisepsis of course receive due consideration. The author by implication, though not explicitly, accepts the views of Sir Watson Cheyne that the effect of pathogenic microbes is largely a question of dosage; that sterilization of the hands and everything else that comes into contact with the patient is a practical impossibility. All that can be done, and in good hospitals is done, is to make the dose so small that the leucocytes can deal with it. The methods of Lord Lister and Sir Watson Cheyne are such that any general practitioner, or any midwife who understands them, can carry them into effect without difficulty. But Dr. Fromme will have him wash his hands for five minutes in flowing hot water with soap and a nailbrush; then dry them with a sterile towel; them wash them for five minutes more in a 70 to 96 per cent. alcohol; then two minutes in 1 to 1,000 solution of sublimate. And after this performance he is to put on sterilized indiarubber gloves. Does he really think that the average German midwife, or German general practitioner, will go through all this performance, and, in addition, afford the expense of indiarubber gloves? Is he unacquainted with the dictum of one of the world's greatest surgeons and most brilliant operators, to the effect that the use of gloves to the surgeon is to keep his hands clean while he is *not* operating, so that he may take them off when the time to operate comes, and touch the patient with clean hands? Insistence on unnecessary detail is a characteristic of incompetence. Dr. Fromme says the hair of the vulva is always to be cut short, and before an obstetric operation is to be shaved. Apart from these antiseptic extravagancies, which only indicate a want of confidence in simple means—or, may we put it, a want of trust in Lord Lister?—Dr. Fromme's advice as to the conduct of childbed is sound and good. He does not advise vaginal douches in a normal lying-in. There is a great deal of information about the different kinds of bacterial infection to which the puerperal woman is liable and their different effects. In the minds of too many writers and practitioners the kinds of illness produced by different microbes are much mixed up. But we have given, perhaps, too much space already to a work in a foreign tongue.

[1] *Die Physiologie und Pathologie des Wochenbettes, für Aerzte dargestellt.* Von Privat Docent Dr. F. Fromme, Oberarzt der Königlichen Universitäts-Frauenklinik zu Halle-a.-S. Berlin: S. Karger; and London: Williams and Norgate, 1910. (Sup. roy. 8vo, pp. 264. Abt. 31; Tafeln 2. M. 8.40.)

HAEMATOLOGY.

The second edition of the work on anaemia by EHRLICH, LAZARUS, and NAEGELI[2] will be welcome to all who are interested in haematology, for during the ten years or more since the appearance of the first edition not only has much been done in the various directions suggested by investigations carried out at the Frankfort Institute, of which Professor Ehrlich is the director, but, as a perusal of the pages shows, modifications and corrections have had to be made in some of the deductions which this distinguished writer had drawn. Ehrlich, in the preface, says that the groundwork of the volume is in no way altered, and that, though many stones have been removed from the edifice which he had raised in the first edition, on the other hand it has been enriched by newer work. His views in connexion with the doctrine that all anaemic conditions must be referred ultimately to alteration of function of the bone marrow remain unaltered; further, his theory of the dualistic origin of the white corpuscles has, he maintained, triumphed over that which sought to show that all white corpuscles are derivatives of one and the same cell. The observation of Kollmann on lower types of animals like the crab, showing that the granules of white corpuscles disappear with starvation, affords new insight into the significance of these bodies, and Ehrlich expresses the earnest hope that the efforts of physiological chemists will be directed towards solving the riddle of their composition. To Dr. Lazarus has fallen the task of editing the sections dealing with the clinical examination of the blood, the histology of the red corpuscles, of the blood patelets, and of haemoconia; and to Dr. Naegeli the histology of the white corpuscles in health and disease, their seat of origin, the significance of their granules, the morphology of the three main types of granulocytes, and, finally, the section dealing with the two forms of leucocythaemia as defined by Ehrlich, the lymphatic and the myeloid.

No one at all familiar with the problems of haematology would expect a detailed critical review of this volume, for so replete is it with facts elucidating these problems, so elaborate are the inquiries carried out by Professor Ehrlich and his pupils, and so full the statements of the points of view of workers who have arrived at different conclusions, that extended appreciation and criticism is impossible within any reasonable limits. We are glad to welcome the credit given to the methods of estimating the total blood in the body by the carbon-monoxide process advocated by Drs. Haldane and Lorrain Smith, which has led to a correction of the estimate of the relative weight of the total blood in the body from 1 to 13 to 1 to 20.5, and to the work of Biernacki which established the fact that the total iron in the body in chlorosis and some other forms of anaemia may be not merely normal but greater than normal. Reference is also made to the recent important work of Friedenthal tending to show that the biological reactions of the blood and serum hitherto referred to alkalinity are much more readily explained by ferment

[2] *Die Anaemie:* 1 Abth., 1 Teil. *Normale und pathologische Histologie des Blutes.* Second edition. By Dr. P. Ehrlich, Dr. A. Lazarus, and Dr. O. Naegeli. Vienna and Leipzig: Alfred Hölder. 1909. (Sup. roy. 8vo, pp. 161, 5 illustrations in the text and 5 coloured plates. M. 5.20.)

action; alkalinity when artificially increased to but a slight extent checks this action. The methods of "illumination of a dark field" as advocated by Dietrich are also commended for the observation of haemolysis and in the minute study of blood platelets as shown by Pappenheim. The beautifully executed coloured plates show what the text also reveals—that the introduction of Giemsa's stain has greatly advanced our knowledge of the minute structure of the various forms of corpuscles, red and white. Much attention is paid to the punctiform granulations observable in red corpuscles. Dr. Lazarus reiterates the view originally expressed by Ehrlich that the presence of megalocytes is of great importance in the diagnosis of so-called pernicious anaemia, a position which Dr. William Hunter has attacked with so much force and effect. The attribution of a basophilic character to the granules visible in the protoplasm of lymphocytes, as originally described by Ehrlich, is now shown to be an error. Such appearance is merely due to the expression of the condensation of the protoplasmic reticulum which stains with basic dyes. The method devised by Schridde of distinguishing lymphocytes from the large mononuclear cells and from immature myelocytes (called now by Dr. Naegeli myeloblasts) is described and stated to be trustworthy. It consists in the detection of fuchsinophile granules in the protoplasm of lymphocytes. Another alleged reliable means of distinguishing these cells is the demonstration of what are spoken of as azurophile granules; it has, however, been pointed out by Pappenheim that they are not specific for lymphocytes, and they do not always exist in these cells, and, moreover, occur also in the thrombocytes of the frog, and in certain cancer cells. In more than one place reference is made to the fact that by the method of staining introduced by Schridde, not only of blood films but of sections of tissues like the marrow and spleen, it is possible to trace the actual seat of origin of the various white cells met with in the blood stream, so that workers need no longer fear the charge of being mere "peripheral haematologists."

One further theory brought out clearly in the pages of this volume is that the granules present in any one leucocyte are uniformly basophilic, neutrophilic, or acidophilic, any apparent exceptions being attributed to the unequal staining of granules which are not equally ripe.

Finally, we may call attention to the newer work, which has shown that myelocytes can, even in the adult, arise from tissue other than the marrow. There is reason to accept Schridde's contention that they can arise from cells of the vessel walls which are capable of undergoing a metaplasic—or, to use Schridde's own term—a heteroplasic transformation not only into myelocytes, but into myeloblasts and erythroblasts. This almost sounds like a renunciation of the view already expressed by Ehrlich that all granulocytes arise in the marrow, but Naegeli expresses the opinion that probably such an origin is the *exception*, and that even when it takes place can have little bearing on the vexed problem of the origin of white cells in the adult human being! This acknowledgement of the possible origin of such cells from tissue other than marrow is the one example of the almost inevitable result of composite editorship—namely, contradiction—that we have detected in this well-written volume. It will most certainly for some years to come be the standard work of reference on haematological methods.

BIOCHEMISTRY.

THE collection of lectures, on a variety of medical and physiological subjects, which were delivered before the Harvey Society of New York during the year 1907–8, illustrates the growing interest which attaches to the study of the chemistry of the body in health and disease.[3] Dr. EDSALL, of the University of Pennsylvania, discusses investigations of metabolism in their relationship to clinical medicine. "I believe," he says, "that quite as many patients are damaged by faulty use of foods as by faulty orders concerning drugs," and he asserts that, whereas the average practitioner often manifests a desire to acquire and to utilize such accurate knowledge as we possess concerning the action and use of drugs, relatively few of them have taken the trouble to keep themselves up to date in scientific work on dietary standards and food values, the digestion and absorption of foods, their metabolism in the body, and their excretory products. There is, no doubt, a certain amount of truth in this accusation. Medical men only too frequently treat the dieting of their patients in a rule-of-thumb, perfunctory sort of manner; nor do they exercise as much influence as they might, in their capacity as the family advisers, towards promoting more rational ideas as to the choice and apportionment of foodstuffs for the healthy body. Professor Starling, of University College, London, in his lecture on the chemical control of the body, treats the subject from the physiological aspect, and calls attention to the importance of the chemical stimulants which he has termed "hormones." He describes the stimulation of the pancreatic secretion by the chemical action of a product which is conveyed by the blood stream and is derived from the interaction of acid with the cells of the intestinal epithelium. Amongst other well-known instances of selective chemical action in the control of functions of the body, he recalls Haldane's work on the stimulation of the respiratory centre by CO_2, and makes mention of his own researches showing that chemical products which pass from the fetus through the placental circulation stimulate the development of the mamma. Returning to the sphere of clinical medicine, Dr. Folin, of Harvard Medical School, considers the chemical problems which present themselves in hospital practice to the clinical pathologist. Another very important subject in physiological chemistry—the reversible action of ferments in the metabolic processes of the animal body, forms the subject of a lecture by Dr. Taylor, of the University of California. Amongst other valuable lectures in the volume may be mentioned a review of the cancer problem, by Dr. Ewing, of Cornell University, and a recapitulation by Professor Schäfer, of Edinburgh, of his well-known researches on artificial respiration after apparent death by drowning.

Professor EMIL ABDERHALDEN, whose name ranks very high not only as a researcher, but as a most able exponent of physiological chemistry, has earned the gratitude of all workers in this vast and ever-growing branch of study by undertaking the laborious task of editing a textbook of biochemical technical methods.[4] In carrying out this task he has had the co-operation of over sixty physiological chemists whose special knowledge is utilized in dealing with the one or other particular branch of the subject which they have made their own. We have before us the first halves of the first and second volumes, and the work is to be completed in three volumes. The first volume opens with a most useful account of general chemical laboratory methods by Professor R. Kempf. Herein we learn the properties of the materials, such as silica glass, quartz glass, and porcelain, used for laboratory utensils; gutta-percha, cork, etc., information most essential to the scientific worker in his endeavour to avoid the pitfalls of error. Thus we read: "The supposed transmutation of copper into lithium by the emanations of radium as set forth by Sir W. Ramsay and A. T. Cameron, is really due to the lithium content of all glass." The violet colour which appears in most glass under the influence of ultra-violet rays is due to traces of manganese in the glass. The properties of quartz glass are detailed and mention made of the new cheap quartz glass made in the electric furnace, and to the size of 5-litre flasks. The only fault of it is that it is not perfectly transparent. It melts at a temperature 1000° C. above ordinary glass, and stands the most sudden changes of temperature without breaking, on account of its low coefficient of expansion. The article continues with descriptions—and these are fully illustrated—of all the best chemical methods of weighing volume estimation, grinding, mixing, shaking, cooling, and heating (with figures of the new electric lamp hot-water baths), and the arts temperature measurements, filtering, centrifuging, distilling, etc. Succeeding articles deal with such subjects as elementary analysis, nitrogen estimation, ash analysis, physico-chemical methods, optical methods of investigation, etc., each article being written by an

[3] *The Harvey Lectures; delivered under the auspices of the Harvey Society of New York, 1907–8.* London: J. B. Lippincott and Co. 1909. (Demy 8vo, pp. 265; 70 illustrations. 9s.)

[4] *Handbuch der biochemischen Arbeitsmethoden.* Edited by Professor Dr. Abderhalden. I Band, 1 Hälfte, und II Band, 1 Hälfte. Berlin and Wien: Urban und Schwarzenburg. 1909. (Sup. roy. 8vo, I Band, pp. 512, figs. 527; II Band, pp. 496, figs. 42. M.18 each volume.)

authority in his own subject. The first part of the second volume contains articles on the preparation, detection, and estimation of the biologically important lower alcohols, aldehydes, acids, sugars, fats, phosphatides, plant proteins, animal proteins, and the beginning of the treatment of products of protein hydrolysis—the mono-amino acids. The critical acumen of the authors is utilized in selecting the best methods of work in every case, and the directions given are thoroughly practical, so that the experimenter can set to work straight from the directions. The qualities of the book make it, therefore, one which every laboratory worker will delight to have, for it will save him endless labour in searching the archives, and do much to forward him in his researches.

The Vegetable Proteins[5] is another of the monographs on biochemistry which are appearing under the editorship of Drs. Aders Plimmer and Hopkins. It fills a long-felt want, and constitutes the only connected account of the modern chemistry of vegetable proteins which we possess. Those who devote themselves to vegetable chemistry are few in number, and the author, Dr. T. B. OSBORNE, is the most prominent of these few. The mass of information packed within the 99 pages of the text is prodigious, and the fact that over 600 original papers are referred to will show that the compression is great also; in fact, it is so great that the readability of the book is seriously diminished. As a mine of information and a work of reference the book will, however, prove invaluable to the original investigator and advanced student.

Dr. STANFORD has made a translation of Professor EMIL FISCHER'S well-known practical guide to organic chemistry.[6] The book originated as notes with which the professor provided his elementary students at the commencement of their work: since that time it has grown considerably, but even now, in its eighth edition, only contains somewhat less than 200 small pages. This is the first time it has appeared in English dress; the translation has been creditably carried out, and we can hardly doubt that this *Introduction to the Preparation of Organic Compounds* will prove as useful to English-speaking students of chemistry as it has been to their German brethren. The second part of the book will be specially useful to biochemical workers, as it includes the preparations of many of the substances chiefly worked upon by the researchers in Professor Fischer's laboratory, namely, the carbohydrates and proteins, with their cleavage products.

NON-DIABETIC GLYCOSURIA.

THE section of Professor ALBU'S encyclopaedia of diseases of digestion and metabolism by Professor BLUMENTHAL[7] on non-diabetic glycosuria is a little disappointing, as it deals only briefly with an interesting subject, and devotes half its forty pages to laevulosuria, lactosuria, pentosuria, and the various tests for the different forms of sugar. While laevulosuria has occasionally been seen after metallic poisoning, and lactose is commonly met with in the urine of lying-in women, and pentosuria is known as a rare hereditary condition, they have comparatively little clinical importance. But glycosuria in apparently healthy persons is a matter of considerable moment; such cases frequently occur in insurance practice, and it is necessary for the practitioner to know the various conditions which may give rise to this phenomenon. Professor Blumenthal defines diabetes as the excretion of grape sugar dependent upon a diminished capacity of the organism to burn up those alimentary carbohydrates which contain six atoms of carbon or their multiples. This is, of course, a purely chemical definition, and will not stand the clinical test, or it would include every case of transient glycosuria or lactosuria. He says that all glycosurias which are not diabetic are toxic, and instances in support of this a case of acute rheumatism seen by Strauss in which sugar appeared, the glycosuria observed in Pasteur's rabbits suffering from rabies and that seen after poisoning from chloral, morphine, and other drugs. Of these toxic glycosurias the most important is that caused by alcohol, but he believes that only beer and champagne are capable of producing it. Although this limitation cannot be accepted, he tells a story which is worth repeating as showing the close relation between champagne and glycosuria. He says that an actor came to consult him, saying that he had been rejected for life insurance, and would like to know whether his urine contained sugar. He came at three in the afternoon, and his urine was found to be free from sugar, although the previous morning the examining medical officer of a life insurance company had found his urine to contain 0.5 per cent. of sugar. Professor Blumenthal asked him whether he had taken any champagne the night before, and received the answer that he was in the habit of drinking half a bottle of champagne every night before he went on the stage. The urine was examined every day for a week; sugar was invariably present in the morning when champagne had been taken the night before; when the champagne was omitted there was no sugar. Professor Blumenthal quotes the observations of Krehl on the glycosuria of beer drinkers, but he is wrong in restricting alcoholic glycosuria to these two drinks, as it is often seen in this country after drinking whisky. Professor Saundby published in this JOURNAL (April 14th, 1900, p. 889) a lecture on non-diabetic glycosuria, and in describing several of the cases there related he wrote: "The form of alcohol taken in these cases has been, I believe, invariably whisky." Professor Blumenthal thinks the glycosuria of Graves's disease is comparable to that caused by overfeeding with thyroid extract, and that the lactosuria of lying-in women is due to the action of an enzyme in the breasts on glucose. Von Noorden found when he fed lying-in women with 150 grams of glucose, the urine contained lactose, and experiments on goats have shown that glucose and not lactose appears in the urine of animals whose breasts have been removed.

NOTES ON BOOKS.

THE forty-sixth volume of the *Minutes of the General Medical Council and its Various Committees for the Year 1909*[8] has been issued. It contains twelve appendices including the report of the Anaesthetics Committee, and the supplementary report of the Education Committee on various proposals submitted to it referring to the curriculum in medicine. A *General Index to the Minutes of the Council* and its Executive and Dental Committees, and its three branch councils for the years 1903–9 inclusive, volumes xl to xlvi, has also been issued,[8] and will greatly facilitate the work of consulting the volume.

A set of *Skelcton Maps of Tropical Africa showing the Distribution of Tsetse Flies and Sleeping Sickness*[9] has been issued under the direction of the Honorary Managing Committee of the Sleeping Sickness Bureau. One of the maps shows the distribution of sleeping sickness and all species of *Glossina*, the other that of sleeping sickness and *Glossina palpalis* alone. The information charted refers only to undoubted records of the occurrence of the flies, and is thus, to quote the words of the introduction, "little more than a series of blanks held together by a slight framework of records." It is hoped that information enabling the blanks to be filled up will be rapidly received, and if on this account a new edition is called for, five more degrees of south latitude will be added.

The pamphlet in which Dr. LUTAUD describes a method of uretero-vesical anastomosis in the treatment of fistulae,[10] particularly uretero-vaginal and uretero-cervical forms, is a useful compilation of the literature of the subject with short descriptions of various other methods that have been adopted, and case reports. The new method is that of M. Ricard, and consists in freeing the proximal end of the ureter, turning back a cup of mucosa, and then

[5] *The Vegetable Proteins.* By Thomas B. Osborne, Ph.D. Monographs on Bio-chemistry. Edited by R. H. A. Plimmer and F. T. Hopkins. London: Longmans, Green, and Co. 1909. (Roy. 8vo, pp. 140. 3s. 6d.)

[6] *Introduction to the Preparation of Organic Compounds.* By Emil Fischer, Professor of Chemistry in the University of Berlin. Translated by R. V. Stanford, B.Sc., Ph.D. London: Williams and Norgate. 1909. (Cr. 8vo, pp. 195; illus. 19. 4s.)

[7] *Sammlung zwangloser Abhandlungen aus dem Gebiete der Verdauungs- und Stoffwechsel-Krankheiten.* Von Dr. A. Albu. II Band, Heft 2. *Ueber Nichtdiabetische Glykosurien.* Von Professor Dr. Ferdinand Blumenthal. Halle-a-S.: C. Marhold. 1909. (Med. 8vo, pp. 40. M. 0.75.)

[8] London: Spottiswoode and Co., Limited. 1910.

[9] London: Sleeping Sickness Bureau. 1909. Free on application to the Director. Maps mounted on linen, 1s. 6d.

[10] *Sur un procédé d'urétéro-cysto-néostomie dans le traitement des fistules.* Par le Dr. Paul Lutaud. Paris: Jules Rousset. 1907. (Sup. roy. 8vo, pp. 129. Illustrated.)

implanting it into the bladder in such a way that at least 2 cm. projects as a papilla into the cavity. The ureter is fixed by a double row of interrupted purse-string sutures, and the risk of disruption of the anastomosis is minimized by fixation of the bladder to the iliac fossa. The bibliography will help any one working at the subject.

The volume entitled *Clinique Hydrologique*,[11] which has been written by several physicians practising at different French watering places, is something more than a guide book or almanack, but in certain respects less useful. It contains a general and historical introduction to the subject of the use of mineral waters internally and externally, a classification of waters, and an exposition of the results of the modern chemical and physical investigations of their qualities. Their therapeutic action is discussed, and we are asked not to judge them by their chemical and physical qualities only, but by the results produced on patients. We do not desire to depreciate the value of mineral waters in the treatment of disease; many are useful therapeutic agents even when taken at home, but more are valuable in combination with local conditions of climate, with special appliances, with the skill and experience of the resident medical practitioners, and with the circumstance that the patient is placed under relatively favourable conditions when away from the cares or worries of business or family. But the various chapters in this book do not supply as much information of the sort required by practitioners as is given in the Medical Index to the Principal Watering Places in France, a book published a few years ago by the general syndicate of physicians practising at those stations; the names of the local medical practitioners are not given, nor any lists of hotels, such as can be found, for instance, in Bradshaw's *Dictionary of Bathing Places*. It may be said, and with justice, that the book before us makes no pretence to give information of that kind, but is a scientific treatise dealing with the therapeutic properties of the various waters, but the facilities to be found at the various stations might have been described. We remark with some surprise the omission of almost all reference to mechano-therapeutics, of which there is an excellent installation at Vichy, for example. Some such reference would be useful in discussing the treatment of nervous diseases, but, except a casual reference under neuritis, we have observed nothing about these means.

[11] *Clinique Hydrologique.* Par les Drs. Baraduc, Felix Bernard, M. E. Binet, Cottet, Furet, Piatot, Sersiron. Simon, Tardif. Bibliothèque de Thérapeutique Clinique a l'usage des Médecins Praticiens. Paris: Masson et Cie. 1909. (Demy 8vo, pp. 646. Fr. 7.)

MEDICINAL AND DIETETIC ARTICLES.

Plasmon and its Compounds as a Source of Phosphorus.

THE importance of administering phosphorus in a form suitable for assimilation has long been recognized, and for this end many attempts have been made to prepare it in various forms of organic combination. There appears to be no doubt that the phosphorus in such a compound as lecithin, which occurs in the yolk of eggs, in the brain, etc., is capable of being assimilated and utilized with satisfactory results. Glycerophosphoric acid, a decomposition product of lecithin, has been much recommended as presenting phosphorus in the same form, while it is more easily prepared and therefore cheaper. Glycerophosphates of various bases are now largely employed but must be regarded as still on trial, for some authorities assert that they have no greater value than inorganic phosphates. There is evidence, however, that the organic compounds of phosphorus which occur in some natural foodstuffs and in the body itself present this element in a form especially favourable for its assimilation. In this connexion attention has been drawn to plasmon as a source of phosphorus. Plasmon, as is well known, is a preparation of the casein of milk containing rather over 80 per cent. of pure protein, but its considerable content of phosphorus in the form of combination in which this exists in milk is perhaps less generally recognized. We have examined a number of plasmon preparations submitted by the International Plasmon, Limited (66A, Farringdon Street, London, E.C.). The amount of phosphorus in plasmon itself proved to be equivalent to 2.66 per cent. of anhydrous phosphoric acid (P_2O_5), and the greater part of this was found not to be present as ordinary phosphate. The precise nature of the combination of phosphorus in milk has never been established, but from the nature of milk it is certain that it is in a highly assimilable form. Plasmon oats, a blend of rolled oats and plasmon for the preparation of a porridge, contained 18.4 per cent. of protein, and phosphorus equivalent to 1.2 per cent. of P_2O_5; a portion of the latter, of course, consists of the natural phosphorus compounds of the oats. Plasmon cocoa, which yields a beverage of much greater nutritive value than ordinary cocoa, was found to contain phosphorus equivalent to 2.32 per cent. of P_2O_5. Beef plasmon, a dry granular material containing extract of beef for the preparation of nourishing beef-tea or the enrichment of gravy or soup, etc., showed phosphorus equivalent to 3.78 per cent. of P_2O_5; doubtless a part of this is derived from the beef extract. Other articles which we examined, intended for use in general cookery or the preparation of special dishes for invalids, are plasmon arrowroot, which contained 10.2 per cent. of protein, corresponding to 12.7 per cent. of plasmon and therefore to 0.34 per cent. of P_2O_5; plasmon custard powder, containing 20.7 per cent. of protein, representing 26 per cent. of plasmon or 0.69 per cent. of P_2O_5; and plasmon blancmange, containing 12.1 per cent. of protein, representing 15.1 per cent. of plasmon, or 0.40 per cent. of P_2O_5.

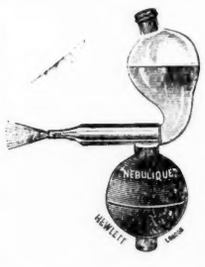
Massolettes.

A preparation of the lactic ferments, which possesses certain advantages over both soured milk and dried preparations of the lactic acid bacillus, is now put forward by Messrs. A. H. Cox and Co. (Brighton) under the name "Massolettes." They are chocolate bonbons somewhat resembling ordinary chocolate creams, but with the "cream" of the latter replaced by a pasty preparation of the organisms. Examination of the samples submitted showed that the ferments had retained their activity in a satisfactory manner; the contents of two "Massolettes" were added to half a pint of sterilized milk and the mixture incubated for eighteen hours, when the contents of the vessel showed 0.4 per cent. of lactic acid (practically none having been developed in a control test without the "Massolettes"), and this was increased to 0.6 per cent. on further incubation. The bonbons are as attractive and agreeable as an ordinary sweetmeat, and being easily portable are very convenient for regular use; the sugar which they contain is sufficient in quantity materially to favour the development of the bacilli in the body.

MEDICAL AND SURGICAL APPLIANCES.

A Spray.

A FORM of spray for nasal, pharyngeal, and laryngeal use has been introduced by Messrs. Hewlett under the name "Nebulique Spray." It is one of the best that we have yet seen, and produces a fine voluminous cloud, with aqueous, spirituous, and oily solutions. It has the distinct advantage that practically every drop of liquid can be used, which is very useful in cases where only a small fixed quantity is ordered by the physician. This renders it also of great service for the consulting room, when a few minims of cocaine or adrenalin may require to be used. Another advantage is that it may be used with one hand only, the other being free to hold down the tongue if required, which is useful to the physician or for self-application. The apparatus is devised so that none of its contents can enter the rubber ball. It is also claimed for it that it can be held in any position; but this is incorrect when only small quantities of liquid are being used, a quality which is one of its chief merits; but the position in which it must be held for this purpose is a perfectly easy and natural one.



A PETITION has been presented to the Federal Council of Berne asking that it be enacted that before any marriage is allowed to take place a medical examination of both parties should be made.

UNDER the will of the late Mr. S. Haldane, a partner in a firm of steam trawlers, the following medical charities in Hull are made legatees to the amounts mentioned against their namas: The Royal Infirmary, £5,000; the Hull and Sculcoates Dispensary, £1,000; the Victoria Hospital for Children, £500; the Hull and East Riding Convalescent Home, £300; and the Blind Institution and East Yorkshire and Lincolnshire Institution for the Deaf and Dumb each £100.

FOOD AND FEEDING.

(Continued from page 390.)

Vegetarianism.

IT is probable that necessity, rather than choice, has determined the diets of most races, as we see a great tendency to depart from customs even of long standing when opportunity arises. Thus we read that the Eskimos, who formerly got all or almost all their non-proteid nutriment from fat, now eagerly barter their furs for flour and tea, while alcohol is too gladly welcomed all over the world. People who are habitual vegetarians, like the natives of Central Africa, gorge themselves with meat when they get the chance, while the people of Thibet took very kindly to our ammunition bread. In the *Voyage of the Beagle* Darwin tells us that during his ride across the pampas he lived for days upon an exclusive meat diet, sharing the meals of the Gauchos who were his guides, and had no other food, but lived on it "for months together." He did not dislike this new regimen, but added that he felt it would only have agreed with him when he was taking hard exercise.

Where choice is possible it is largely, as Major Blackham points out, governed by fashion, custom, and convention, certain articles being highly prized because of their association with wealth, while, on the other hand, others are despised as the diet of the poor.

While the use of the various forms of meat as an ordinary article of diet, combined with bread-stuffs and vegetables, is that generally popular in this country, vegetarianism in its various modifications has found of late years many followers. Among its most effective advocates has been Mr. Eustace Miles, whose success as an athlete afforded a splendid testimonial to the value of his system. By his energy and enterprise in establishing restaurants and by numerous publications he has done a great deal to attract disciples and diffuse a wider knowledge of the advantages of a lacto-vegetarian diet; but as his aim is to make his disciples attain thorough bodily efficiency, he is not content with preaching dietetic principles alone but lays down rules for daily physical exercises and for the cultivation of habits of mind and body which he regards as equally essential. His diet consists of eggs, milk, cream, butter, cereals of all kinds, fruit, vegetables with sugar, pepper, salt, sauces, and other flavourings. He gets the proteid of his diet from cheese, pulses, nuts, eggs, cereals, milk, and plasmon powder. He lays stress upon eating leisurely, but he condemns hurry under any circumstances. His is the gospel of fitness, but it seems to be addressed to readers who have nothing else to do, or at least no serious duties in life—to such persons, for example, as the average daughter of well-to-do parents whose life is too often destitute of any serious duties and who may find great advantages in following his rules. It is noteworthy that he warns his readers only to follow his advice "if it suits them." It is impossible for them to know whether it suits them or not until they have tried it, and perhaps the most important part of the controversy respecting the value of these diets is as to their ultimate effect, an answer to this question being obviously only forthcoming after a long period. Can we say what would be the effect upon the race of such a change of diet as that which vegetarians advocate? If we adopt it, will Englishmen be as capable and energetic as our meat-eating forefathers with all their faults have been? Professor McCay compares the amount of work done by a vegetarian Bengalee with a meat-eating Englishman; he says that in cotton spinning in Lancashire a thousand spindles require 4 2 workers, but in Bengal they require 28; and, although the coal in India is thick, soft, and easily cut, the output per miner is 80 tons against 287 tons in England! There is plenty of evidence that health may be maintained upon a diet containing no meat and a relatively small amount of proteid, and there is reason to believe that the Voit and Atwater standard is too high. Thus, while Professor Otto Cohnheim does not accept Chittenden's conclusions, he admits that there is a good deal of exaggeration of the value of proteid food, and estimates the quantity required by a healthy full-grown man to be that arrived at by Caspari and Loewy—namely, 80 grams. But another difficulty has been suggested by Rubner, who maintains that the proteid derived from different sources is not identical, and that meat albumen is far better than the proteid derived from vegetables, while there is a very marked difference between various kinds of vegetable albumen. According to him, 37 grams of potato albumen is equivalent to 81 grams of bread albumen. It is a well-known fact that the Irish peasantry of a hundred years ago grew up healthy and strong on a diet of potatoes and butter-milk, and that the Highland cotter was a better man on porridge and milk than he is now on tea, bread, and tinned meat. But then, again, comes the question how far a low proteid diet may be suitable for growing boys and girls. Professor McCay, investigating the diet of students in Government colleges in Bengal, found that the average amount of proteid in the diet of the Bengalee students was 67 grams with 548 grams of carbohydrates and 71 grams of fat; but on this diet 42 per cent. of the students lost weight. On the other hand, in a college for Anglo-Indian and Eurasian students, the diet contained 86 grams of proteid, 376 grams of carbohydrates, and 54 of fat; but these students showed an average annual increase of 18 lb. in weight. This difference is greater than one would expect from the deficiency of proteid, which was more than made up by the increase in carbohydrates and fats; but it must be remembered that a principal source of the proteid in the diet of Bengalees is derived from pulses, and although when properly cooked they are digestible, yet Professor McCay found that no less than 25.42 per cent. of the nitrogen ingested could be found in the faeces of his Bengalee subjects.

Professor Siegert has carefully studied the dietary of children, which obviously must be upon a different scale from that of adults, quite young children requiring from 80 to 100 heat units per kilogram of body weight, and during the whole growing age the diet should be upon the highest scale for adults—namely, 40 heat units per kilogram; and of this 17 per cent. must be proteid, of which 50 per cent. should be of vegetable origin. With less than 17 per cent. he found that the children lost weight, but he regards a larger amount as not only wasteful but harmful.

A change in the direction urged by vegetarians would undoubtedly have great economical advantages if it were adopted. Without necessarily going so far as Hindhede, who stated at the International Congress of Hygiene at Berlin in 1907 that he had been able to bring up a family on food which cost him about 1½d. per head per diem, there is no doubt that alcohol, meat, and tea absorb a large proportion of the money spent upon food and that cereals and vegetables, particularly potatoes, provide equal quantities of heat units and proteid at a much smaller cost. The comparative disuse of cheese, too, is much to be deplored, as it is an excellent and cheap foodstuff. The fruit and nuts which are so strongly advocated by the particular sect of vegetarians who call themselves fruitarians are more expensive than cereals and potatoes, but are held by Professor Jaffe, an impartial authority, to possess a higher nutritive value than is popularly attributed to them and to be almost completely digestible. The taste for dietetic luxuries receives little indulgence from our modern food reformers, who condemn tea, coffee, and cocoa as rigorously as tobacco and alcohol. Owing to the relation of the xanthin bases to gout and allied diseases and to the economical relationship of those bodies to the alkaloids of tea, coffee, and cocoa, they have fallen under the ban of Dr. Alexander Haig and of those who advocate purin-free diet in the treatment of disease, or in the maintenance of health, so that they are forbidden by Mr. Eustace Miles and his followers. Dr. Charles Fernet in France and Dr. Craemer of Munich in Germany are unsparing in their condemnation; in fact, the latter has not a word to say for any of our dietetic luxuries except beer, for which, as a citizen of the Bavarian capital, he has perhaps a natural tenderness. Our attitude as a profession towards tea, coffee, and cocoa should be that generally maintained towards tobacco—that is to say, we must regard them all as at best indifferent and very often harmful, and we should not hesitate to forbid their use in illness.

There are social evils associated with the use of alcoholic drinks which justify to a great extent the campaign carried on against them, but temperance advocates can hardly be held free from exaggeration when they lay so much stress upon the poisonous effects of alcohol, as if those who take alcoholic drinks neces-

sarily take alcohol in poisonous doses. Carbonic acid gas is a poison, yet aërated mineral waters are not held to be poisonous on that account, and it is no more accurate to describe as poisonous beer or light wines or other diluted alcohol drinks. Dr. Craemer has pointed out that in the Pathological Institute of his own city only 1.2 per cent. of the bodies show alcoholic lesions, owing, as he believes, to the almost exclusive use of beer by the people of Munich; but in Hamburg, where spirits are largely drunk, the percentage is as high as 10 8. Moreover, beer contains a considerable amount of food in the form of malt extractives, and a very large proportion of alcohol is utilized in the body, so that in conditions, such as diabetes, where there is some difficulty in giving a due amount of heat units in the form of ordinary food, a little alcohol may be usefully added, as an ounce of whisky contains 105 heat units.

The Low Proteid Diet; Chittenden's Plan.

Quite distinct from any of the systems which are founded upon the principle of excluding particular articles of diet or classes of food is that which has been advocated by Professor Russell H. Chittenden of Yale, and has been supported by a considerable body of evidence. Professor Chittenden considered that Mr. Horace Fletcher's experience suggested the probability that the ordinary standard diet as accepted by such authorities as Voit and Atwater is too large. As is well known, the proportions are about, protein 120 grams, carbohydrates 400 grams, and fat 60 grams, making up an amount of food containing 30 to 35 heat units per kilogram of body weight. As has been already shown, Mr. Fletcher maintains his health and strength on a dietary consisting of little more than half these quantities. Professor Chittenden, after experimenting upon himself, induced some of his colleagues and a few of the students of the university to join him in testing the value of reduced diets, and finally he had placed at his disposal by the military authorities of the United States a squad of soldiers who were trained and dieted for a period of eight months. The general results of all these experiments were favourable to the smaller quantities; there was generally some slight loss of body weight, but health was maintained, muscular energy and endurance rose considerably, and all the subjects agreed that they had been perfectly happy on the reduced quantities of food, and were willing to continue on the same lines. He does not claim to have established definite numerical standards, but he believes he has proved that athletes can maintain mental and physical vigour upon a daily output of 8.8 grams of nitrogen (as against the customary 16 or 18 grams) representing the metabolism of 55 grams of protein. It is the quantity rather than the quality of the food which Chittenden attacks, and so far he may be said to be following in a more scientific manner the lines of Dr. Dewey's reform.

These conclusions have been criticized very generally, the usual line taken by the critics being that the habits of the people must be regarded as equivalent to their physiological requirements, and that as all the energetic and dominant races of mankind eat largely, their activity and success should be attributed to their liberal diet. This is precisely the argument that is used by the advocates of alcohol, and suggests some confusion between the ability to obtain means for satisfying natural appetite and the unrestrained use of these means. Unfortunately, history shows that the second too often follows the first, but it has not been for the advantage of the races concerned, who have generally fallen into decadence in consequence. Other critics, such as Munk and Rosenheim, have based their objection on experiments with dogs which tended to show that when fed on low proteid diet they lost their health and died, but Chittenden has proved the contrary, and has demonstrated his results to his readers by photographs. It is noteworthy, however, that though only a small amount of proteid was necessary to keep the dogs in health, a little animal proteid was essential, as on a purely vegetable diet they fell away. He lays stress upon this difference, and has drawn attention to the marked differences in the decomposition products of various kinds of proteid, any of which may be needed for what he calls the corner stones in the building up of tissues in a particular kind of animal or for the performance of special functions.

Dr. W. Gilman Thompson, in his recent book on diet, says that the fundamental questions involved are two. Does an excess of nitrogenous food overtax the organs of the body or pave the way to functional or organic disease? and, secondly, does a low equilibrium fit the body better to cope with the emergencies of daily life in those who are not under the favourable influences of a daily training, as was the case with Chittenden's athletes and soldiers? He thinks the first question cannot be decided in the present state of our knowledge. Excess of proteid food certainly does not necessarily and uniformly cause any one disease or group of diseases; and he points to the large quantities of proteid food eaten by Eskimos and by the members of the various recent Arctic expeditions, but he thinks it has been proved that many persons and many existing diseases are benefited by temporary or permanent proteid restriction. The second question he does not think in any way answered by the special conditions under which Chittenden's experiments were conducted; and, while he admits that temperance in eating, as in drinking, should be the aim of a well-regulated life, he hesitates to accept conclusions which would justify a permanent reduction of the total proteid food of man to less than half of that to which heredity, habit, or circumstance has accustomed him.

For ourselves, we are of opinion that the cheap and abundant supply of flesh food now procurable, particularly in England and America, has led to its excessive use, and that it is the duty of the medical profession to preach moderation, and to do what is possible to disabuse the public mind of the belief that three meat meals a day are necessary or even desirable. Further, it should be urged that while during the period of growth and up to middle age a considerable amount of proteid may be consumed without injury, and probably with advantage, during the later period of life these quantities should be considerably reduced. Such conclusions as those drawn by Mr. Seebohm Rowntree from his investigation of the dietaries of the working classes in York, which led him to say that a large proportion of the population was underfed, are unjustified, as they were based solely upon the relatively low proteid content of those dietaries. Up to within the lifetime of the present generation the majority of the working classes of England were able to obtain only small quantities of meat, and in the agricultural districts their proteid supply was mainly derived from cheese; but the Irish peasant, the Highland cotter, and the English agricultural labourer were at least as good men, and in the opinion of many were better men, than their present representatives.

A survey of the dietaries of the different races of mankind shows such wide divergences that it is impossible to state dogmatically that any one diet is the best. It is impossible to eliminate questions of race, climate, and custom from the results as we see them, but we should bear in mind that the dietetic habits of the people of these islands have recently undergone great changes, and it remains to be seen how far these are to their advantage. This question deserves the close attention of the medical profession, which has the care of the public health as its principal concern, and for this reason all these experiments and discussions are of the utmost interest, even although the conclusions to be drawn from them may not seem so clear and conclusive as some enthusiasts suppose.

THE name of St. Mark's Hospital for Fistula and Other Diseases of the Rectum has been changed to St. Mark's Hospital for Cancer, Fistula, and Other Diseases of the Rectum, which it is considered will more fittingly describe the scope of the work, since a large proportion of the patients suffer from malignant disease.

THE Medico-Psychological Association will hold its next quarterly meeting at the Leicestershire and Rutland Counties Asylum at Narborough on Thursday, February 24th. The general proceedings, which commence at 3 p.m., include the presentation of a report on the Pensions Act of 1909, and papers by Dr. G. Scott Williamson on typhoid carrier infection, and by Mr. Mackenzie-Wallis and Dr. E. Goodall on electric bath treatment of 120 cases of mental disorder, illustrated with lantern demonstration of tables. By invitation of Dr. Rothsay Stewart, the members attending the meeting will lunch with him before the meeting, and the same evening a dinner will be held at the Royal Hotel, Leicester.

Nova et Vetera.

RECOLLECTIONS OF AN OLD-TIME DOCTOR'S APPRENTICE.

IN looking back to the time when I was serving my apprenticeship in the old-fashioned way to a country surgeon, I am profoundly struck by the change that has come over the scene, not so much in the matter of therapeutics as in what may be called the ethical obligations of the profession. The profession nowadays is much more homogeneous, much better disciplined, and unquestionably stands at a much higher level than it did even so short a time ago as in the early Eighties. Some of my experiences will serve to emphasize this fact, and from this point of view may be interesting to the present generation of students and young practitioners.

I was informally apprenticed to a country surgeon in a small country town when 15 years of age, my first duties being to take messages and dust the bottles, in addition to assisting my principal in dispensing by writing (and licking) the labels, and adding the indispensable "aqua." Things went on swimmingly until I was promoted to the task of filling the dispensing bottles from the stock bottles, but then my troubles began, owing to the fact that I was as yet ignorant of the radical differences between pulv. ipecac. and pulv. ipecac. co., chloroform and spirits of chloroform, and so on. No opportunity was afforded me of confusing Epsom salts with oxalic acid, or treacle with laudanum, otherwise I have no doubt I should have availed myself thereof. Six months passed during which I picked up some knowledge of the physical properties of drugs and became tolerably familiar with their reputed action. One day my principal, who found attending parish labours very tedious, urged me to read up midwifery, explaining incidentally that it meant delivering women of children—a suggestion which made me blush furiously and caused me an embarrassment which I had great difficulty in concealing. I started on the then current textbook, Denman's, but I was unable to make head or tail of it. Dr. Denman was a discursive old soul who chatted away on things in general, but his style was ill-suited to the requirements of an ignoramus such as I was. I may have got through a dozen pages or so when at a pinch I was dispatched to a parturient woman who relied on the Poor Law to see her through her trouble. I went, and was forthwith ejected from the lying-in room, on the ground of my youth—a proceeding which impressed me as unjustifiably harsh, seeing that I was then approaching my sixteenth year. Late in the evening I accompanied my principal back to the house, where he installed me at the bedside, having guided my finger into the vagina and told me in detail what to look out for. He left me in charge while he settled down to a well-earned repose in the kitchen armchair. I found that night tedious. The woman, who, at the onset of labour, repeatedly invoked the aid of the Almighty in tones and terms that inspired respect for her upbringing, gradually lapsed into vulgar abuse, couched in words that made my young ears tingle. Once in a while my principal came up to see how things were getting on. I remember telling him with pride that I had reached the os coccyx, but he "repressed my noble rage" with the remark that at confinements it was not customary to talk of bones. Ultimately, just as dawn was stealing over the tops of the houses, he decided to intervene and sent me off for his bag. From this he extracted sundry odd-looking instruments. One was a pair of what I now know to have been short forceps, in leather casing, in order to give a better grip, as he explained to me. The leather-clad blades had a most uninviting odour, but they proved successful in extracting a stillborn infant amid cries that made my tired hair stand on end. I forget the subsequent history of this woman, whether or not she succumbed to puerperal fever, the more so as on the following day I saw my first big operation—an amputation of the leg for caries, the subject being a young Sister of Mercy. I was entrusted with the task of giving the chloroform, the anaesthetic action whereof excited my deepest interest, this being my first experience. My principal kept an eye on me, occasionally telling me to put more on the towel or asking whether the patient was breathing all right. I had one eye on the patient's face and the other on the leg with which she was so soon to part. What a shiver I felt when the first incision was made, all bloodless though it was, an Esmarch's bandage having been applied from the foot upwards. She survived both the chloroform and the operation.

Events followed each other rapidly in those days, and my next midwifery case happened to be at a distance from the surgery. I confessed to feeling rather nervous, but my principal calmed me by promising to come out, should I send for him, as soon as he returned from a journey to a neighbouring town. I found a robust woman, a labourer's wife, in the throes of labour. She was greatly depressed, there having been an epidemic of scarlet fever in the township, two of her children lying dead in the next room. The pains were frequent and severe, but at no time could I detect anything in the vagina that might be taken to be the advancing head. After some hours, my anxiety was increased by a little stream of blood that began to trickle away, whereupon I sent for my principal, who, however, did not come.

Looking out of window, I caught sight of the qualified assistant of a neighbouring doctor driving through the place, and I asked him to give me the benefit of his experience. He looked at me with a humorous smile and asked me how many labours I had attended. He examined the woman, told me she was doing well, and suggested that I should give her some laudanum and go home. I did not see my principal again until the following morning, and I was giving him my account of the case, coupled with a timid expression of my opinion to the effect that I did not think it was fair to send me to such cases, when the husband came in. "Well, L., how's your wife?" asked my principal. "She's dead, sir," he humbly replied. Naturally we were greatly upset, more, as far as we could judge, than the husband, who was quite broken down by the illness of his children, the death of two of them, followed by the sudden and wholly unexpected demise of his wife. He had no fight left in him, and, although he did incidentally express the opinion that I was "o'er young" to attend such cases, he made no fuss and the woman was buried. Though the husband did not grumble, the neighbours did not fail to comment on the death of an undelivered woman, and for a day or two public opinion was greatly moved. That death has always been a mystery to me. I suppose there must have been a ruptured uterus, but who can tell?

Anyhow, I attended no more confinements after that for a long time; in fact, I never attended any more in that particular town, whence I moved during the following year to become dispensing assistant to a surgeon with a large practice in one of the mining towns of the north of England. I was the junior of three unqualified assistants, and my duties were tolerably onerous. In addition to dispensing about a hundred bottles of medicine daily for club patients and others, I had to attend to emergencies, and they were many. Chopped-off fingers, contused limbs, scalds and burns, fractures and dislocations abounded; in fact, I had more surgical experience than at many a hospital in town. I ligatured arteries, amputated fingers, sewed up huge cuts, or deftly applied Carron oil to singed skin. Surgical cleanliness had not yet become a dogma. It was a time when hospital surgeons, on proceeding to operate, donned their oldest jacket, reeking with accumulations of antique pus and glistening blood stains. Fresh wounds we supposed ourselves to cleanse by the aid of the sponges in general use, which were then handed to the surgery boy to wash out under the tap. Naturally the job rather repelled him, and he merely prodded them guardedly with his finger, so that as aids to cleanliness they left much to be desired. We used to get lots of clean cut wounds from the glass works, and it was an adage with us that they never healed under a month, nor was it likely they would, seeing that every one was inoculated with colonies of pathogenic microbes at every dressing. I began to read up surgery in my spare time, but that did not prevent my occasionally overlooking dislocations of the shoulder. My new principal only attended to serious cases, and devoted his time to visiting the wealthy manufacturers and mine owners, leaving the bulk of the practice

to his three unqualified assistants. As there were on an average a hundred patients a day to be seen, surgical and medical, our time was pretty fully taken up. Those were the "good old times" for the unqualified assistant, who nowadays leads a precarious and undignified existence which he scarcely dare call his own; but the altered circumstances are no doubt to the benefit of the sick public, little though it reck of the change that has taken place. Nowadays every doctor has to see his patients himself or run untold risks. *Tempora mutantur, et nos mutamur in illis.*

LITERARY NOTES.

A. W. SIJTHOFF, of Leiden, is publishing a series of photographic reproductions of ancient manuscripts—*Codices Graeci et Latini photographice depicti*—under the general editorship of M. S. de Vries, head of the Library of the University of Leiden. Thirteen of these have already appeared, among them being the *Sarravianus-Colbertinus Codex*, the Old Testament in Greek, of the fifth century; the Codex Venetus A. of Homer's *Iliad;* the Codex Laurentianus Mediceus of Tacitus; the Codex Ambrosianus H. of Terence; and the *Codex Aniciae Iulianae picturis illustratus, nunc Vindobonensis* of Dioscurides, whose work is a compilation of all that was known about plants and drugs in his day. In supplements to several of these books are phototypes of the coloured miniatures with which they are illustrated. The publisher announces that about the end of the present month there will appear as a supplement (viii) a reproduction of the miniatures of the Latin manuscript of Galen's works in the Royal Public Library of Dresden. The miniatures, twelve in number, together with the title page, will be reproduced in their original colours. The price is 92 marks (about £4 12s.). Applications should be made to A. W. Sijthoff's Uitgevers-Maatschappij, Leiden, Holland.

Epilepsia is the title of an international quarterly review devoted to the study of epilepsy and kindred nervous diseases in their pathological, social, legal, and therapeutic aspects. The periodical, which is published at Amsterdam by Scheltema and Holkema, and Messrs. Williams and Norgate of London, is under the patronage of Drs. W. Bechterew, O. Binswanger, J. Hughlings Jackson, L. Luciani, H. Obersteiner, and F. Raymond. The editor-in-chief for the first year is Dr. V. Göttergasse; the editorial secretary is Dr. L. J. J. Muskens, 365, Overtoom, Amsterdam. Among the collaborators are Dr. Edwin Bramwell of Edinburgh and Dr. T. Grainger Stewart of London.

A meeting in furtherance of a movement to commemorate the centenary of Sir Samuel Ferguson was held in Belfast on February 7th. In moving the resolution that the centenary of Sir Samuel Ferguson be suitably celebrated in Belfast, the city of his birth, Sir John Byers, President of the Natural History and Philosophical Society, said Ferguson was *par excellence* a man of the greatest literary culture—not merely a poet, but a prose writer—and people who could judge in those matters believed that his poetical works, especially his great epic "Congal," entitled him to be called the national poet of Ireland. By his efforts to create modern poetry from the old Irish tales of heroes and saints and histories of places he stimulated students to a more thorough and scientific study of the history, antiquities, and ancient learning of his country, which had culminated in the remarkable modern renaissance in Irish literature. Moreover, Sir Samuel Ferguson, by the work he did in deciphering the Ogham inscriptions (characters belonging to an alphabet used by the ancient Irish until the ninth or tenth century and by some other Celts in the British Isles), placed himself in the very first rank of antiquarians, just as Hincks of Killyleagh did by his unravelling the old Egyptian hieroglyphics. Sir Samuel Ferguson was also a musician, and, as might be expected, was greatly interested in the ancient music of his country, while in the manuscripts recently presented to the Linen Hall Library there were water colours which indicated that he had marked artistic tastes. These facts showed that he was a man with exceptionally varied gifts. The resolution was carried unanimously.

Ash's Quarterly Circular for January contains an interesting review of a translation of Vincenzo Guerini's *History of Dentistry* (Lea and Febiger, Philadelphia and New York, 1909). Dr. Guerini was entrusted some ten years ago by the Organizing Committee of the Eleventh International Congress of Medicine with the duty of reproducing and describing all the appliances of ancient dental prosthesis existing in the museums of Italy. The first volume, which appeared not long ago, comprises the history of dentistry from the remotest ages up to the eighteenth century. The second volume will be devoted to the history of dentistry during the last hundred years. The volume is published by subscription under the auspices of the National Dental Association of the United States of America. Dr. Guerini argues from the number of remedies against toothache that dental caries must have been common among the ancient Egyptians. Yet Professor Flinders Petrie's collection of skulls dug up in Egypt, and computed to be 5,000 years old, show extremely well-developed teeth, including the *dentes sapientiae*. In the Bible there is, according to Guerini, no reference to dental surgery. Captain Dabry's book on Chinese medicine, written in 1863, contains two chapters on dentistry, founded on works one of which was written twenty-seven centuries before Christ by the Emperor Houang-ty, the founder of Chinese medicine. One of the remedies there prescribed for an aching tooth contains arsenic. Guerini's book is said to contain some fine illustrations of appliances for fixing artificial teeth found in Etruscan tombs, to which he assigns a date about 3,000 years ago. He also reproduces dentures in terra-cotta, such as the Etruscans offered to their deities as votive offerings. In addition to the other illustrations, the book contains many portraits.

In the *Transactions* of the "Old Glasgow Club" during session 1908–1909 will be found, says the *Glasgow Medical Journal*, a synopsis of a paper by Dr. James Erskine on "Old Glasgow Pioneers in Philanthropy." The hospitals founded in these early days formed part of, or were closely associated with, the abbeys, the monasteries, or other ecclesiastical institutions of pre-Reformation times. The earliest hospital, St. John's, was situated in the district of Polmadie, and stood on the south side of Rutherglen Road, opposite to the Richmond Park. Neither the name of its founder nor the date of its establishment can be ascertained; but King Robert the Bruce had much to do with the continuance of its existence. By a charter granted to it in 1316, Bruce ordered that the master, brethren, and sisters of the hospital should enjoy all the privileges which they had in the time of his predecessor, Alexander III, who began to reign in 1249. The church and church lands of Strathblane were bestowed upon it in 1316, and four years later the half of Little Govan was granted to it by John, Bishop of Glasgow. The hospital and its property proved a bone of contention between the bishops and the earls, but the rival claims were settled in 1424, and the hospital and church lands were erected into a prebend of the cathedral. Dr. Erskine next draws attention to two philanthropists—Bishop Rae and Lady Lochow—who figured prominently in the middle of the fourteenth century, and both of whom had a hand in the erection of the Stockwell Bridge. At the southern end of the bridge there stood a leper hospital, and this is believed to have been founded by Lady Lochow in 1350. In 1460 St. Nicholas's Hospital was founded and endowed by Bishop Andrew Muirhead. It stood near the cathedral, being to the south of Provand's Lordship, and provided for the maintenance of twelve poor laymen and a priest, who took charge of the institution. The latter was designated "Magister," and it is interesting to note that the title still survives in the office of the Lord Provost. This charitable foundation is the only pre-Reformation one remaining in the city, and its revenues are given in moieties of £3 each to pensioners, there being on the roll, at the time Dr. Erskine writes, three men and eighteen women. About the year 1524, Roland Blacader, Sub-dean of the Cathedral, founded a hospital outside the north port of the city. Its situation would be about the spot where Dobbie's Loan joins Castle Street. This hospital was specially built for the reception of the itinerant poor, and is termed by Dr. Erskine "Glasgow's first Night Asylum for the Houseless." Dr. Erskine briefly refers to the "Back Almons Hous" and its being merged in the Crafts' Hospital (Trades' House), the Merchants' Hospital (Merchants' House), and his paper concludes with mention of Hutchesons' Hospital and the Town's Hospital.

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SATURDAY, FEBRUARY 19TH, 1910.

NURSING HOMES FOR THE MIDDLE CLASS.

AT page 466 will be found an article giving some account of proposals which have recently been made in Edinburgh for providing indoor treatment for persons whose financial position is such as not to render them suitable objects of the charity of the medical profession or of the public who support charitable hospitals by their contributions, but are yet not in enjoyment of incomes sufficiently ample to enable them to pay the charges of private nursing homes. Writing without reference to the charges of private nursing homes in Scotland, as to which we have no special information, it can be asserted that charges made by nursing homes are usually high, and often seem exorbitant. In London the high charges are defended on the ground that house rent also is high in London, and the general upkeep of a well appointed home costly. The charges deemed exorbitant are reached by a process of accretion—extra charges for this, that, and the other being made, to any one of which it may be difficult, in the absence of a definite inclusive contract, to take exception. If the home be well appointed, if the sanitation be modern, the food and cooking good, and the nursing first-rate, a man may feel that though he has been called upon to pay a very high price for the services rendered, he has had some return for his money in preservation from complications, and in the enjoyment of some of the comfort and attention he would experience in his own home if he could be allowed to be ill there. When, however, he gets, or somebody near and dear to him gets, none of these things, when the room is small, ill-lighted, and ill-furnished for its purpose, the sanitation and general cleanliness of the home doubtful, the food indifferent, the cooking unappetizing, and the nursing incompetent, he feels not only that he has been bled unmercifully, but has been made to run unnecessary risks. If he expresses himself in very indignant terms to his friends and to his doctor he can hardly be blamed. That a system under which such things can occur should be allowed to continue is not good for the public, and involves some reflected discredit on the medical profession. This may, perhaps, seem a digression, but it will serve to direct attention to a point which we venture to think worthy of consideration. It is that the medical profession cannot divest itself of responsibility for the good administration of nursing homes by leaving them to be managed by lay persons, and leaving their patients to grumble. Some of the grumbling will be directed against the doctor, and not unjustly, for when a patient places his case in the hands of his doctor he may reasonably claim that he should be put under the best conditions for recovery, and it is a truism to say that hygienic surroundings and good nursing are among the means essential to his cure. Therefore, before we begin to consider questions of expense to the patient and possible abuse of any private paying hospital or nursing home at low rates, we already see a reason why the medical profession should actively interest itself in the management of such places.

The scheme originally put forward in Edinburgh at a semi-private meeting called by the Lord Provost last December does not seem to have been well thought out. Its basis was narrow, and it would appear that little or no regard was had to institutions already existing in Edinburgh or to the views or wishes of the medical profession in that city and its immediate neighbourhood. The opinion of the profession, as will be seen, has since been very unequivocally expressed; it is strongly opposed to the foundation of a new gynaecological charity hospital on the lines which the Lord Provost's committee would appear to have contemplated, and equally in favour of the establishment of a paying nursing home open to all medical or surgical patients, male or female, to be attended by any physician or surgeon of the patient's choice. Before arriving at this conclusion the profession in Edinburgh had had an opportunity of considering the views put forward by Dr. Chalmers Watson in the statement which is reproduced at page 466.

It will be useful to recall that at the Representative Meeting last year a definition of "nursing home" suggested by the Hospitals Committee was adopted to the following effect: "A 'nursing home' is an institution in which patients are received for medical care under the attendance of medical practitioners selected by themselves, and where the patients are responsible to the home for charges for maintenance and nursing and to the medical practitioners for their fees." This definition was drawn up in accordance with an instruction given by the Annual Representative Meeting at Sheffield in 1908, when the committee had presented a report on the subject of self-supporting public nursing homes. The Representative body then resolved, as Dr. Watson reminds us, that it was desirable that self-supporting nursing homes should be established for patients who, being ineligible for the voluntary hospitals, are yet unable to pay the customary professional fees as well as the charges usually made in private nursing homes. Definite opinions were also expressed as to the lines on which such institutions should be conducted; it was laid down that a patient should be entitled to select any registered medical practitioner as his attendant in the nursing home, that the suitability of the patient for admission should be vouched for by medical certificate, given preferably by his usual medical attendant, and that when the payment made by a patient was insufficient to cover the entire cost of maintenance, or when any question arose as to reduction or remission of fees for professional services, a statement of the financial circumstances necessitating such consideration should be signed by the patient or near relative, countersigned by the usual medical attendant, or some other responsible householder, and submitted to the committee of management, and that on this committee the local medical profession should be adequately represented. This last provision is of very great importance; it will probably be found that success can only be achieved when the medical element predominates; in fact, good grounds can be advanced for the opinion that the management should be entirely in medical hands.

The profession in Edinburgh has not, as we understand the matter, committed itself to the details of Dr. Watson's scheme, and it is, of course, clear that

as he himself admits, he has left over a good many points which will require careful consideration. The class which it is desired to help is undoubtedly most deserving of assistance, and it is equally clear that a carefully-drawn constitution and its judicious administration can alone prevent the abuse of the proposed institution by persons for whom it is not designed to cater. Dr. Chalmers Watson assumed that in such an institution there must be a certain number of beds at a higher rate to make up the deficiency on beds for which the charge will be only one guinea a week, as the latter could not be self-supporting. Dr. Watson seems to have regarded this as axiomatic, but we should like to see the matter more fully discussed; it would be far better, if possible, to put the whole scheme on a sound financial basis; provided that the home were not overburdened with house rent, it is open to debate whether it would not be possible to adjust the lowest rate of payment, so that it should be self-supporting. It is not clear whether it is intended to appeal to the public to support the proposed institution in Edinburgh by raising an endowment fund sufficient to make it rent free. If that were done it would be worth while to consider whether it would not be feasible to introduce a uniform rate of payment which would cover the annual expenditure, or to arrange at any rate that the minimum rate should be of such a character. It seems clear also that the management of the institution should be in the hands of the medical profession, or fully controlled by it.

So far as we are aware, the problems which the project raises have not yet been faced elsewhere, and the manner in which they are resolved in Edinburgh will form a precedent which cannot fail to have great influence in determining the character of any similar project elsewhere.

INTESTINAL BACTERIA AND DIGESTION.

IT was a favourite speculation of Pasteur that the presence of bacteria in the alimentary canal was a necessity of animal life, but he never, we believe, put the matter to the test of experiment. Professor Metchnikoff, in a paper on the relation of the digestive processes to the supposed activities of the bacteria normally present in the intestines,[1] observes that Schottelius has maintained that animal life is impossible without the assistance of intestinal bacteria. This opinion was based on the fact that when newly-hatched chickens were fed under strictly aseptic conditions they did not survive for long, but the mere addition of microbes to their food sufficed to restore them to health and enabled them to develop normally. Similarly Bogdanoff, experimenting with flies, found that when disinfected eggs were introduced into vessels containing sterile meat, the larvae which were produced generally developed less well than the controls, which were fed on putrid meat containing bacteria in abundance. But Bogdanoff went a step further. Supposing that the difference was due to the soluble ferments produced by the microbes, he raised larvae under aseptic conditions upon meat to which a sterile solution of trypsin had been added. Then he found that the larvae developed quite as well as the bacteria-laden controls, and gave rise to flies quite as big as those obtained from the latter. Hence he concluded that the bacteria were of real service in furnishing requisite proteolytic ferments which the larvae could not produce for themselves. In subsequent researches, however, Bogdanoff found that there are larvae which, without the addition of trypsin to their food, but with their own unaided ferments, are capable of thriving and attaining normal dimensions under conditions which absolutely exclude bacterial life. These latter results, which are unfavourable to the theory of Schottelius, are supported by the researches of Nuttall and Thierfelder, who kept newly-born guinea-pigs alive under conditions of strict asepsis.

The weak point in experiments on chickens and guinea-pigs such as those referred to is, says Professor Metchnikoff, that they were conducted on newly-born animals. "It is easy to conceive that, in these conditions, there might be a deficiency in the requisite quantity of soluble ferments, particularly if it be remembered that the nourishment provided, being sterilized by heat, is far from being the most appropriate." Adult animals are better able to produce the digestive ferments which they require; and he therefore thinks it permissible to suppose that they may be more easily able than the newly born to dispense with bacterial assistance. This view would be in complete harmony with the fact that the small intestine, where digestion mainly goes on, contains relatively few bacteria, particularly in its upper part.

He has endeavoured to test experimentally the accuracy of this view. As the large intestine, where the amount of digestive work is insignificant, contains the largest number of micro-organisms, it occurred to him that it would be useful for experimental purposes to employ an animal in which the colon was particularly short, and he selected the bat. As the common bat is inconveniently small, he chose the *Pteropus medius* (roussette), which is found in hot climates. A large number of these animals, which feed on fruit, were therefore imported from India, and were investigated by Professor Metchnikoff and his colleagues at the Pasteur Institute. Drs. Weinberg, Pozerski, and Berthelot conducted respectively the anatomical, physiological, and chemical parts of the research, whilst Professor Metchnikoff, in conjunction with M. Distaso, undertook the bacteriological investigations.

In reviewing the general results of this joint research, Professor Metchnikoff remarks that in this species of bat digestion is very rapid, and the dejecta contain some undigested material; consequently, the animals require a very abundant food supply. It might, for this reason, be thought that they merely extracted the nutritive juices of the fruit they ate; but a detailed study of their digestive juices and excreta showed that the greater part of their food is subjected to true digestion, which takes place only in the small intestine. The feature of special interest in their digestive tract is that it contains an extraordinarily small number of bacteria; only a few varieties are found, and these only in scanty numbers. In the small intestine the bacteria only occurred singly, and even in the large intestine and in the faecal matter they were very scanty. Hence it is impossible to attribute to the micro-organisms even a minor part in the digestive process. Digestion is performed solely by the digestive juices, which are highly active. "These juices, which rapidly digest albuminous substances, starches, and fats, are very probably capable of digesting cellulose also." The investigators did not succeed in isolating the ferment of this last substance in their animals, but they

[1] *Annales de l'Institut Pasteur*, December 25th, 1909.

inferred its existence from the fact that the animals digested well fruits rich in cellulose, notwithstanding the absence of bacterial participation. In view of these results they consider it important to revise the study of cellulose digestion in other mammals, and to reconsider the commonly accepted view that digestion of this substance cannot take place without the aid of intestinal bacteria.

The great scarcity of intestinal flora in their animals was found to be associated with an absence of aromatic substances, such as indol, scatol, and the phenols, in their excreta. This result, says Professor Metchnikoff, provides additional confirmation of the fact that these substances, and probably urobilin as well, are not produced by the animal organism, but by intestinal microbes. But the result to which he attaches the highest importance is the demonstration that the animal organism can perform all the natural digestive functions without the co-operation of bacteria. "It is worth emphasizing that this fact has been established for an adult mammal, in possession of its full digestive capacity and placed in the conditions of normal life." There is, of course, nothing in this result which is contradictory to the more artificial experiments showing that newly-born animals, in which the digestive powers are not fully developed, cannot assimilate sterilized food without bacterial aid; but Professor Metchnikoff considers that the results of the research which he has initiated show that it is inaccurate to suppose that former experiments on the newly-born prove the necessity of bacterial life for the performance of the digestive functions in the adult.

THE STATE REGISTRATION OF TRAINED NURSES.

IT is believed—certainly it is earnestly hoped—by all who have been working for the State Registration of trained nurses that the result of the conference held recently will be decidedly to improve the prospects of legislation in the direction they desire. Till quite recently one of the obstacles in the way of placing on the Statute Book the wished-for Act has been the want of unanimity amongst the various bodies advocating registration. During the last Parliament three different bills were promoted which had registration for their object. It has been felt that no Government was likely to take the matter up so long as there was this lack of agreement amongst those who were interested in the subject, and for some months past rumours of compromise have been in the air. Indeed in June last a conference was held, but no result that was definite or satisfactory was reached. The conference recently convened, however, has been more fortunate. Delegates from the following societies, some of which had not been represented at the previous conference, were present, (the names are placed in alphabetical order): The Association for the Promotion of the Registration of Nurses in Scotland, the Fever Nurses' Association, the Irish Nurses' Association, the Matrons' Council of Great Britain and Ireland, the Royal British Nurses' Association, the Scottish Nurses' Association, and the Society for the State Registration of Trained Nurses. Representatives of the British Medical Association also attended the conference, which met in the Council Chamber of the Association, under the chairmanship of Lord Ampthill, who, it will be remembered, successfully piloted one of the bills mentioned above through the House of Lords. Three important principles were agreed upon—namely, the single portal system, three years as a minimum for the course of training, and a uniform State examination. The bill drafted by the conference embodies these principles, and further provides that there shall be a General Council, which shall regulate and supervise all matters relating to the training, examination, and registration of nurses throughout the United Kingdom, but that this Council shall appoint Divisional Committees for each of the three kingdoms, which shall manage certain details of the examinations, subject to the approval of the Council. Provision is made for the admission of existing nurses to the register. Besides the general register of women nurses, there are to be two supplementary registers, one for male nurses, the other for asylum-trained nurses, containing the names of nurses who hold the certificate of the Medico-Psychological Association or have qualified as mental attendants in the Royal Army Medical Corps. Another new feature in this bill is a provision for allowing a nurse, qualified to have her name entered upon the general register, to record the fact of her having received a special training in the nursing of fevers, if she holds the certificate of the Fever Nurses' Association. The fee for the State examination is not to exceed three guineas, and that for registration two guineas, and there is to be a yearly fee of two shillings and sixpence so long as the nurse's name remains on the register. Another clause provides that nothing contained in the Act shall be considered as conferring any authority to practise medicine or to undertake the treatment or cure of disease. The constitution of the Council has always been a subject of much discussion. Under the new bill it would consist of twenty-one persons, as follows: Three to be appointed by the Privy Council, one each by the Local Government Boards of England, Scotland, and Ireland, three by the British Medical Association, one by the Medico-Psychological Association, and one by the medical superintendents of the fever hospitals which may be recognized as training schools for nurses in fever nursing under the Act; eight women nurses would be elected as direct representatives of the registered women nurses, one registered medical practitioner or male nurse similarly to represent the male nurses, and one mental nurse to represent the mental nurses. Until the register is sufficiently advanced to admit of an election, the places of the elected representatives would be taken by persons nominated by various bodies which represent the interests of nurses. Finally the conference formed itself into a permanent committee to promote the bill in Parliament. Lord Ampthill was elected chairman, and Mrs. Bedford Fenwick and Dr. E. W. Goodall honorary secretaries of the committee.

GLARELESS ILLUMINATION.

THE subject of glare—which in its physiological aspect formed the basis of a discussion at the Illuminating Engineering Society a month ago, already reported in the BRITISH MEDICAL JOURNAL—was again brought before that body last Tuesday evening. On this occasion the matter was considered from the point of view of the engineer rather than from that of the physiologist. Nevertheless, Mr. A. P. Trotter, M.I.E.E., in opening the adjourned debate, raised a physiological point when he asked whether the contraction of the iris which causes the reduction in area of the pupil was due to light entering the pupil or to light falling upon the cornea. After carrying out some experiments with an instrument of his own devising, he came to the conclusion that the contraction was almost entirely

due to light falling upon the cornea, and also, being penumbral in character, to some extent upon the iris. In dealing with the question of intrinsic brilliance, Mr. Trotter pointed out that the irradiation effect was a complicating factor. Irradiation might be an optical phenomenon, and very largely subjective, but the illuminating engineer was compelled to make allowance for it. Owing to irradiation the narrow filament of a glow-lamp swelled out into a thick band, uniform in intensity to the eye, perhaps ten times the actual width of the filament. Therefore, in estimating intrinsic brilliance, it was not enough to take the actual width of a filament. In an ideal system of lighting the source of light would be outside the range of vision, but ordinarily this hidden illuminant was too expensive to be practicable. Under these circumstances he thought it desirable that the intrinsic brilliance should not exceed about one candle to a square inch. For years past he had worked with a lamp raised about 4 ft. above his desk table; but, his sight being not quite so good as formerly, he found it necessary to pull the lamp further down, and he had overcome all disagreeable consequences by placing the lamp just below the level of his eyes and covering it with a very dark green shade—a method he found extremely pleasant, although it was condemned by some physiologists. For domestic lighting he used shades of white paper—"the sort of white paper that is used for covering jam jars"—which were held in front of the light by means of a clip and formed a very pleasant diffusing medium. Mr. J. H. Agar Baugh said that for table or desk work he also had found a quite opaque shade better than any kind of opal or transparent one. Some interesting communications again came from foreign members. Professor Grau, of the University of Vienna, urged the necessity of keeping naked lights high up out of the range of vision. If it were necessary to use very powerful illuminants, he preferred to attain the desired illumination by means of a large number of small units rather than by a few powerful sources. An experienced engineer of Berlin gave as a guiding rule the reproduction of the best daylight conditions, but added that it was not wise always to attempt to imitate daylight, because daylight—in the case of bright sunshine, for example, or the reflections that came from snow—constituted an injurious illuminating system. Professor Stockhausen, of Dresden, laid stress upon the harm that was done by very bright lamps outside shops, and thought the present system of lighting streets wrong in principle. We ought to be prepared to sacrifice some degree of illumination, and be content with darker streets, in order that the intrinsic brilliance might also be cut down.

THE LOCAL GOVERNMENT BOARD AND THE CASTLEFORD GUARDIANS.

IT is now almost two years since the Pontefract Guardians terminated the vaccination contracts of the two medical men engaged in the public vaccination service in the Castleford district of the Pontefract Union. It was a case of summary dismissal on twenty-eight days' notice, because the public vaccinators, who were also district medical officers, declined to continue to serve the State by attendance on the sick poor for remuneration which worked out at seven farthings each attendance. To accommodate the only applicant whose services could, owing to the loyal attitude of the local practitioners, be obtained, the guardians combined the two districts, and have been rewarded by a constant succession of troubles, recurring at short intervals ever since. From time to time these troubles have been recounted in these columns. A period of comparative calm appeared to have set in, but this has now been ruffled. From a statement in the *Pontefract and Castleford Express* of February 11th, it appears that a special inquiry into matters arising out of the performance of the public vaccinator's duties has been held by one of the Local Government Board inspectors, and has resulted in a communication from the Local Government Board to the effect that the public vaccinator should not continue to hold that office. A letter was addressed to the Local Government Board by the public vaccinator, but the Board held to its decision. At a recent meeting of the guardians the letters were read, and the public vaccinator was interviewed. It was resolved to ask the Local Government Board to furnish the guardians with a copy of the inspector's report, and a committee of three guardians was appointed to deal with the case, and to seek an interview with the Local Government Board if necessary.

EXCESSIVE SMOKING AND GASTRIC SECRETION.

THE toxic effect of tobacco smoke may be direct or indirect. In the former case the smoke acts as an irritant, as when it sets up conjunctivitis, in the latter case, the poisonous components are absorbed into the blood stream, and exert a deleterious effect on some organ—for example, the optic nerve. Max Skaller[1] has recently directed attention chiefly to the effect of smoking on the gastric secretion. It is well known that in certain persons excessive smoking causes hypersecretion. Hyperacidity has been found to be the most common disturbance, while gastritis acida is not infrequent. Skaller endeavoured to determine experimentally which constituent caused this disturbance. In the first place, he dissolved smoke in distilled water by sucking the smoke from a burning cigar or cigarette through a reservoir containing 20 c.cm. of water, by means of a special apparatus. The solution was injected subcutaneously into dogs, and the gastric secretion was watched through a Pawlow's or Heidenhain's fistula. The smoke from a Brazilian cigar (= 7 grams) produced a considerable rise in the secretion, while the same effect was produced by the smoke of seven cigarettes. When the 20 c.cm. of the smoke solution were injected in four doses of 5 c.cm. each, with an interval of a quarter of an hour between each, no effect took place. Very little effect followed the injection of a solution of three cigarettes. From these experiments he deduced that the action is indirect. Next he employed a solution of 0.02 gram of pure nicotine. The result was practically identical. The smoke from nicotine-free cigars or from cigars which had been artificially freed from nicotine had no effect on the gastric secretion. In deciding that this action is partly nervous and partly parenchymatous, he injected first 0.0025 gram of atropine sulphate and then 0.02 gram of nicotine. No effect was produced. Liebig's extract of meat, however, produced copious hypersecretion when injected in conjunction with atropine in double the doses employed in the nicotine experiments. Skaller concludes, from the comparative effect observed in dogs operated on by the methods of Pawlow, Heidenhain, and Bickel, that the stimulus is peripheral—that is to say, that the nicotine acts on the ganglia. After touching on the question of wasting in excessive smokers and animals used for experiment, he turns to the treatment of nicotine intoxication. In severe cases he regards it as necessary for the patient to give up smoking at once and permanently. In milder cases it is sufficient to stop smoking for one or two days a week. He points out the danger of chewing,

[1] *Berl. klin. Woch.*, December 6th, 1909.

of smoking cigars right down to the stump, and of holding short cigar ends in the mouth for a considerable time. He has found atropine of use in treatment. Finally, he deals with the significance of hypersecretion in nicotine poisoning; this symptom is, in his opinion, an earlier sign than central scotoma. After an unusually heavy meal a strong cigar may be even beneficial in promoting a good flow of gastric secretion. Not every smoker becomes affected by either gastric hypersection or affections of the optic nerve. He has noticed great individual variations with regard to the tolerance of nicotine, and has even seen marked fluctuations in one and the same individual, for which he could not find any cause.

THE PHYSIOLOGICAL APPLICATION OF THE DOCTRINE OF THE PHASES.

A CAREFUL reader of the JOURNAL has asked for an explanation of the application of the doctrine of the phases to physiology, a subject which was dealt with by Zwaardemaker and Dakhuysen in a paper before the International Medical Congress held in Budapest, and reported in the JOURNAL on September 18th, 1909. A full discussion of the subject would occupy a whole number of the JOURNAL, and we can therefore give nothing more than a sketch of the general concept of "phases." A "phase" is intended to express the condition of a system in which the processes undergo periodic or cyclical changes. Astronomically, the term "phase" is used to express certain conditions of periodicity, and these conditions can be determined by mathematical formulae. Zwaardemaker and others have regarded the animal body as a very complicated system of coexisting phases, in some of which the processes constantly tend towards regaining a balance, which has been disturbed either from within or from without; in others the processes may be regarded as stationary, but on minute examination almost always prove to be really cyclical in character. It matters little whether these processes are chemical, or physical or electrical; all must either tend toward restoring a lost balance, or returning to the point from which they started, or they must proceed toward a definite terminal point. Those which do not return to the point of starting are combined to form group processes, of which the first act is dissimilation and the second assimilation. In dealing with cyclical processes, it is necessary to take certain characters into consideration. Thus a period must be governed by the duration, by the amplitude, and by the form of the change in the substance affected. The movements of the heart, for example, may be analysed in the light of this doctrine. In this case, Zwaardemaker considers that there are a number of partial systems or phase groups, of which he recognizes three. The first may be explained as being the site of the electric phenomena, and the work done by this phase in its endeavours to regain the balance is definite. The second depends on the mass of muscle, and may be described as being elastic energy, while the third is a mechanical and thermic form of energy. Attempts have been made to determine the amount and form of energy which is passed over from the one to the other of these groups. In other instances, other forms of energy may be operating. Besides the analysis of the periodicity of individual organs or partial systems, the connexion between the various local periodic movements to one another has to be considered. Those who study these matters frequently attempt to find simple analogies for the form of period concerned. Models, as they are called, are constructed or suggested, which would explain the *modus operandi* of the energy. The whole study depends on the application of thermo-dynamics, physics and chemistry. The question of osmotic tension is dealt with, and measured by physical means, while the processes of life, depending more or less on the separation of two fluids or emulsions existing side by side and possessing approximately the same osmotic tension, require physical, chemical, and other methods of analysis. Lastly, mention should be made of the periodicity of sleep and waking, and of the possibility of analysis, in theory at all events, of the phases comprising these conditions.

COLOUR BLINDNESS AND ITS DETECTION.

ON February 9th Dr. Edridge-Green read a paper on colour blindness before the Royal Society of Arts. A large audience was present, including some representatives of the Board of Trade. Dr. F. W. Mott, F.R.S., presided. Dr. Edridge-Green began by giving a simplified account of his theory of vision and colour vision. He explained how a ray of light, impinging on the retina, liberates the visual purple from the rods, how the photograph is formed, and how the decomposition of the purple by light stimulates the cones and thereby sends an impulse through the nerve paths to the visual centre. The visual centre, having been stimulated, responds by a sensation of light, and the message, passing further on to the colour perceiving centre, stimulates this and produces a sensation of colour. Having dealt with the character of the impulse as determining the colour sensation, he passed on to consider the nerve cells which receive it, and observed that the degree of development determines the power of colour perception. Next he dwelt on the nature of the visual purple, and then turned to defective colour vision, as explained on the basis of this theory of colour vision. He divided colour blind persons into groups according to the number of spectral colours they could distinguish. Normally, a person is capable of perceiving six or seven distinct colours, while those whose colour-perceiving centres are not fully developed see five, four, three, two, or only one. In some cases there is loss of light vision as well as of colour vision. In order to illustrate the colour-perceiving defects of persons who see less than five distinct colours he exhibited lantern slides of coloured pictures and copies of the same pictures coloured by colour-blind persons, illustrating the confusion of definite colours in certain classes of colour-blind persons. A trichromic only sees red, green, and violet. Yellow is not recognized as a colour, and when such a person attempts to reproduce this colour he is influenced by the nature of the colour in its immediate proximity. Yellow placed next to red is copied green, while yellow placed next to green is copied red. Many of the pictures revealed striking and curious colour mistakes, all typical of the defect of colour vision. Dr. Edridge-Green believed that the colour sense had gradually evolved from monochromatic vision, the first step being the splitting up of the one colour perceived into two, then into three, and so on until the average individual can perceive six or even seven colours. This average person can distinguish at least eighteen monochromatic patches in the spectrum when the spectrum is divided up into fields limited by movable screens. The greatest number of monochromatic patches which any individual whom he had examined could distinguish was twenty-nine. In discussing practical methods of testing the colour visions of engine-drivers and mariners, he stated that when he first said what he was now saying, twenty years ago, it was received with derision. For practical purposes a man would only be required to recognize

those colours which were used as signals, but he would have to recognize them under all conditions. He spoke of trichromics, who had been able easily to pass the wool matching test, who called a bright red light, seen in his special lantern, green. He gave instances of mariners who, under ordinary conditions, could distinguish between green and red signals, but when certain atmospheric conditions prevailed confused these colours. On one occasion he tested a mariner with his lantern test and, although he had passed the wool tests, he was quite incapable of seeing red at any considerable distance. That man refused to take advice, and again went to sea in charge of a vessel. The vessel was never heard of subsequently. He gave many instances which proved the inefficiency of the Board of Trade tests, and demonstrated the method of testing colour vision by means of his lantern. This could reproduce not only the colours which the driver or mariner would be required to recognize and name mentally, but also a red, green, or white light, as seen through a mist, fog, or rain. In conclusion he expressed the hope that a committee would soon be appointed to examine the facts fairly and carefully. The lecture was received with prolonged applause. The Chairman, after speaking of the debt science owed to Dr. Edridge-Green for the valuable work he had carried out during the past twenty years, referred to his own colour vision. His attention was first called to the fact that he had defective colour vision when he took up examining specimens for the detection of Koch's tubercle bacilli. He failed to recognize the red-stained rodlets in the blue-stained specimens, although others could see them quite well. Later he noticed that he was unable to distinguish the red flag on the golf course at a distance, although he could see it clearly when near. He was quite able to pass the wool test. He had difficulty in recognizing reds when the illumination was indifferent, and the same applied to greens. On one occasion, he for a long time possessed a tie without knowing that it had any green in it, until he happened to look at it one day under an exceptionally good illumination. With regard to the evolution of the colour vision, he questioned whether the ancient records of the colours of objects were not due to a limitation in the names rather than in the perception of various colours. Mr. J. S. Dow dealt with the theoretical considerations at some length. He could scarcely believe that the colour sense had evolved so rapidly that, since the time of Homer—from whose writings it had been suggested that only a few of the colours of the spectrum were recognized—such radical changes could have occurred. He maintained that the present-day low-type human being had a fully developed sense of colour vision. After analysing Dr. Edridge-Green's theory, he found that all the difficulties which were not explained on the basis of the older ideas were readily accounted for. He considered the introduction of the naming of colours in colour blindness testing as a great advance, and in condemning the Board of Trade tests he bore testimony to the adequacy of Dr. Edridge-Green's lantern test. Mr. Devereux Marshall said that the lantern test was crucial if a proper lantern were used, but there were lanterns on the market which were not good. The wool test, which had been rather forced upon the Board of Trade, was unsatisfactory, for however carefully it was applied, certain people got through who were a great danger to the community, whereas it did not distinguish those people who had slightly deficient colour perception and were not dangerous. Fleet Surgeon W. W. Pryn said that for the last two or three years a candidate had been examined in the following way: The wools were placed in front of him and the light was shown, and he was asked to name the colour and to match it with the wool; when he did not readily name the colour he looked at the heap of wools, and if not colour blind took out the corresponding colour and named it at once. The plan saved much time, and he regarded it as satisfactory. Dr. Harrison Butler, after dealing with the inefficiency of the wool tests, spoke of cases on railways of men who had passed the wool test, but had been shown to be dangerously colour blind. He was of opinion that the Shrewsbury accident was due to colour blindness in the engine driver. Three English railways had now adopted Edridge-Green's method of testing. Mr. T. H. Blakesley, Lieutenant-Colonel A. Cunnington, R.E., and Mr. A. J. Newton also took part in the discussion. Dr. Edridge-Green replied briefly to the various points raised by the speakers, and expressed the opinion that the method recommended by Fleet Surgeon Pryn was a very good practical one.

LONDON CORONERS.

THE London County Council at its meeting on Tuesday adopted a recommendation of the Public Control Committee to the effect that the facts relating to the performance of the duties of the office of coroner of the Central District of London should be communicated to the Lord Chancellor, with a request that he would take such steps under the Coroners' Act, 1877, as he might consider desirable. What particular facts the committee had in its mind we are unable to state, but as the coroner in question is Dr. Danford Thomas, they relate presumably to the bearing of his health upon the performance of his duties. It is true that Dr. Thomas had an attack of paralysis some five years ago, but he overcame its effects. It is also true that he has been ill on other occasions since that date; but it is equally true that a coroner is appointed for life, and that the fact that his duties might have to be performed at times by his deputy was a circumstance definitely foreseen by the Legislature when framing the Coroners Acts. In this particular case the duties of the office have been most efficiently performed by Dr. Danford Thomas's deputy whenever necessary. In addition, though Dr. Thomas was ill at the time when this question originally came up in the autumn, he has since been able personally to discharge the duties of his office. There would not seem, therefore, any particular reason for dispensing with the services of a coroner against whose technical abilities and wisdom in the performance of his functions nothing whatever has ever been said. Still more regrettable does it seem that the question should have been raised at the time when a revision of the general duties of coroners is in progress and arrangements for their superannuation are in view. It may be added, too, that Dr. Thomas as a coroner is held in high esteem by his professional brethren, and on such good grounds that, whatever reason the London County Council may see for bringing his name to the notice of the Lord Chancellor, anything but the most considerate treatment would certainly be widely resented.

A SHORT WAY WITH SYPHILITIC SOLDIERS.

WE have received a letter from a Canadian correspondent who, apparently writing in all good faith, says: "Last Sabbath one of our local ministers asserted in an address to men that in England at Government stations for the military a room was provided in which men hopelessly ill with venereal diseases are poisoned by carb. ox. gas under

the supervision of medical men. Is this true? I did not believe it then and do not now, though he persists in the story privately when it is questioned." Before now, as Burns tells us,

> Ev'n ministers, they hae been kenn'd,
> In holy rapture,
> A rousing whid at times to vend,
> And nail't with Scripture.

Some of their utterances on vivisection, vaccination, and similar matters have upon them a special stamp of virulent mendacity which is seldom found in those of the uninspired layman. But—though it is a strong thing to say—we are disposed to think that this assertion of the Canadian minister is the most monstrous lie we have yet heard. We may say that we here use the word "lie" in the sense of Johnson, who habitually employed it as equivalent to an untrue statement. When he meant that the falsehood was deliberate, he would say, "He lies, and he knows he lies." That the Canadian minister lies is certain, but of course we do not know whether he knows that he is lying. But a minister of the gospel should be particularly careful to tell the truth and nothing but the truth, for he is more likely to be believed than a man professionally less sacred in character. The statement that soldiers of the British army hopelessly ill with venereal disease are disposed of by being placed in a lethal chamber is so absurd on the face of it that the minister should have taken some steps to verify it before charging the medical officers of the army with committing murder, whether with or without the sanction of the Government. Why on earth should such a thing be done, when by a stroke of the pen they can be invalided out of the army? We prefer to consider the Canadian minister as a victim of an overheated imagination rather than as a malicious liar. Or possibly he may only have wished to frighten his hearers against the dangers of exposing themselves to venereal disease, and "in holy rapture" thought that the myth of the lethal chamber would help them to keep the lust of the flesh under control. Preachers in the Middle Ages did not scruple to invent legends, edifying or terrifying as the case might be, to give point to their oratory. Perhaps the Canadian divine may have read Defoe's *A Short Way with the Dissenters*, and taken that grim piece of irony seriously.

HUMOURS OF MAD FOLK.

MAD folk have often a quickness of wit which disconcerts the wise. There are many examples of this in the "fools" of old, some of which are historical. In these days, when almost every detail and incident of human life are under the dominion of some board or other authority, these "fools" would have gone to swell the number of certified lunatics. Of the shrewdness of some of these many instances could be cited. The following two may be quoted, because we have come across them quite recently. The late Lord Monkswell used to tell a very good story illustrating the shrewdness of some lunatics in the institutions under the control of the London County Council Asylums Committee. Among the patients in one asylum (says the *Daily News*) was an old lady of about 85 who had been an inmate for some forty years. To one of the members of the London County Council, Mr. Blank, whom she knew, this lady once remarked: "Don't you think, Mr. Blank, that as I have been for forty years in this asylum, it is about time I was let out?" "Well, my dear madam," replied Mr. Blank, "I will see the superintendent and do what I can for you." She was usually a very mild and pleasant-mannered old lady, but on this occasion she detached herself from his arm, and said, "You—liar." Mr. Blank felt the rebuke was quite merited. The late Mr. Herbert Preston-Thomas, in his amusing book *The Work and Play of a Government Inspector*, tells a still better story: "In another asylum (not in my district) a Visiting Justice was urgently appealed to by a poor fellow who declared that his wife had shut him up in order to amuse herself with his money, and that a few minutes' conversation would show him to be perfectly sane. The magistrate discussed various topics with him, could discover no trace of insanity, was touched with his piteous story, and declared that everything possible should be done to procure his release. 'Swear to me that you will not forget,' said the supposed lunatic, and the magistrate, with tears in his eyes, promised solemnly as he turned to go away. Then he felt a tremendous kick behind, which sent him flying along the passage, while he heard a gentle murmur, 'That will make you certain to remember me.' And it did."

THE PROPHYLAXIS OF TUBERCULOSIS.

A. CZERNY[1] of Breslau urges frankness with patients suffering from any form of tuberculosis. He is of opinion that the majority of persons would take suitable precautions if they were told that the disease from which they are suffering is tuberculosis, that the disease is communicable from man to man, and that its transmission to others can be avoided by careful destruction of all forms of infective material. He strongly objects to misleading terms such as "catarrh of the lung," "scrofula," and the like, and expresses the conviction that since it can honestly be said that tuberculosis is curable, the average person is no longer scared when he is told he is suffering from the disease. The general practitioner can instruct his patients with regard to the preventive measures which should be undertaken in each case, and it is specially important to regard tuberculous affections of glands and joints as possible sources of infection. He points out that while the wet nurse is usually examined with regard to her state of health, mothers rarely trouble themselves about the health of children's nurses, and many a young life has been ruined by infection with tuberculosis from this source. It must further be remembered that children's nurses are usually recruited from girls of the age when the proclivity to tuberculosis is greatest, and are therefore more dangerous than the older women who serve as wet nurses. Everyone who is employed to look after children, or who is allowed to associate intimately with them, should be carefully examined beforehand in order to exclude all forms of tuberculosis. The task is easy for the general practitioner, who is constantly consulted with regard to the health of the family; but unfortunately the employment of a medical man as the real family doctor is, he finds, becoming rare in these days of specialism, and the chief difficulty is met with in those cases in which no regular medical attendant is employed at all, and only when serious illness necessitates medical aid a medical practitioner is called. Czerny hopes that his plea may induce some to deal openly with patients, and thus help to prevent the spread of infection.

THE International Congress of Physiology will hold its eighth meeting at Vienna under the presidency of Professor Siegmund Exner, from September 27th to

[1] *Berl. klin. Woch.*, November 15th, 1909.

30th, 1910. Notice of communications should be sent to Professor Otto Ritter von Fuerth; of demonstrations and the apparatus required to Professor Alois Kreidl. In either case the letter should be addressed to the Physiologisches Institut, Waehringstrasse, 13, Wien IX, Austria.

Medical Notes in Parliament.

[From Our Lobby Correspondent.]

The New Parliament met to commence its labours on Tuesday last, and the first business for the Commons was to attend at the Bar of the House of Lords to hear the Lord Chancellor read the Royal Commission opening Parliament. As the House of Commons has no Speaker at the beginning of a new Parliament, the attendance on this occasion was, according to usage, under the guidance of the Clerk of the Commons, Sir Courtney Ilbert, who, on the return from the Upper House, directed the proceedings until the Speaker was elected. This election of Speaker is the necessary preliminary to the starting of the Commons House as a working machine. On Tuesday the re-election of Mr. Lowther was a foregone conclusion, and was proposed most appropriately by the Father of the House, Mr. Thomas Burt, who discharged the duty in a very felicitous manner. Mr. Chaplin seconded the proposal from the Opposition front bench, and thus we had for the first time a representative of Labour taking the lead in making the First Commoner, and having associated with him in the work another senior member of the House, who represents more completely than any one the older Tory traditions. After Mr. Lowther had thanked the members he was led to the chair by his proposer and seconder, and then added a few words of thanks from the chair. He was congratulated by the Prime Minister and Mr. Balfour in suitable terms, and Mr. Henderson, as leader of the Labour party, also added his congratulations. The House then adjourned, on the motion of Mr. Asquith, after sitting just over one hour.

The Swearing-in of Members, which began in the House of Lords after the Commons had attended to hear the Royal Commission read, went on till after 4 o'clock, and the new form of oath with uplifted hand was mostly observed. In the Commons the ceremony of swearing the members began on Wednesday after the House had attended at the Bar of the Upper House to hear the King's approval of the Speaker as elected by the Commons. In the course of the day some 400 members were sworn in. This oath was taken by the members in various fashions. The Prime Minister, for instance, kissed the Book, but most of them, like the Speaker who first was sworn, took the Book in the right hand and raised it as high as the shoulder and repeated the words. The new Postmaster-General, wearing a silk hat, took the oath Jewish fashion on the Old Testament, while the ex-Postmaster-General affirmed. The incident of the day, however, was the unexpected appearance of Mr. Chamberlain, who was brought in from behind the Chair by his son, Mr. Austen Chamberlain, and Lord Morpeth. He was taken to the Treasury Bench, and there, sitting down and resting on his stick, he bent towards the Clerk, who administered the oath. He repeated the formula in low tones, and then his name was added to the Roll by his son, and Mr. Chamberlain put a cross against his name. Altogether a pathetic episode.

The Course of Business next week, after the formal opening of Parliament by the King and the delivery of the Speech from the Throne, will be mostly confined to the debate on the address, which under the exceptional circumstances of the session as regards the time of commencement and the urgency of the financial business, is not likely to occupy many days. The pressing need to authorize the taxation for the year ending March 31st and the necessity of passing certain estimates for the next year will take up most of the time till the end of March. The contentious business to follow with reference to the House of Lords will make it a most strenuous session, and private members are likely to have less chance than usual for pushing forward their bills. The programme of Government business to be disclosed in the King's Speech must this year be limited to a greater degree than usual, but in addition to the proposals arising out of the Constitutional question, there is one measure that must be passed, and that is the Census Bill to authorize the enumeration of the people in 1911.

SCIENCE NOTES.

The history of the investigation of cancer contains so many shattered theories and so many unsubstantiated remedies that one is inclined *a priori* to look askance at any new pronouncement on the subject. The parasitic theory, or rather theories, have so frequently led to disappointment that they in particular must be subjected to the closest scrutiny before even the slightest reliance can be placed on the facts they profess to offer. The microbic theory of cancer has long fallen into disrepute, but it is little more than twenty years ago since the coccidium theory was first advanced. It was taken up readily, and bodies having the appearance of coccidia were described by several observers in cancerous tumours. Shortly afterwards, however, these bodies were demonstrated to be, not parasites, but epithelial cells in a particular state of development. The theory again revived with the discovery of various intracellular elements, easily interpretable as stages in the life-cycle of sporozoa. These in their turn were shown to be in practically every case intrinsic parts of the cell, modified, perhaps, by peculiar circumstances, but not exclusively connected with neoplasms. Many of them were simply vacuoles, others masses of secreted material, and so on. The blastomycosis theory then found favour for some years, and many of the discoveries of previous observers were reinterpreted in this light. Numerous blastomyces were isolated, but their direct connexion with the causation of the tumour could not be proved; in most cases, indeed, could be disproved. It is true that the injection of a culture could produce a tumour, but this was invariably of the nature of a granuloma, not an epithelioma or carcinoma. Such tumours can be produced by the injection of yeasts isolated from various fruits and vegetables, and frequently death rapidly follows. Dr. Borrel, who has done much to disprove many of these parasitic theories, is himself the latest convert to the possibility of the parasitic causation, or at least transmission, of epitheliomata. Following the trend of the times, it is an acarine on which the somewhat doubtful honour has been thrust. The Acarina have been looming largely in epidemiology of late, and it is not surprising that they should be supposed to have something to do with cancer. Dr. Borrel's remarks, however, carry an air of conviction—a statement, however, which unfortunately could only too frequently be made with regard to previous alleged discoveries. The cases which he describes[1] and the microscopic sections with which he illustrates them show that there is some foundation for his hypothesis. The essential feature of his researches is the study of early cases. In those he hoped to find evidence of the initial cause, or, if not of the actual cause, at any rate of some predisposing factor. The investigation has disclosed *Demodex* occurring with such consistency as to be beyond coincidence. Epitheliomata of the skin—in most cases multiple—form the basis of the work, but the author speculates on the applicability of the theory to intestinal and other carcinomata, granted a suitable parasite—for instance, a helminth. In every one of the 12 cases which Dr. Borrel deals with, acarines were found either in the follicles undergoing cancerous transformation, or in those in the immediate neighbourhood. In the sections it is easy to perceive that the follicles become cancerous

[1] *Annales de l'Institut Pasteur*, xxiii, p. 97–124

successively by contamination from the surface. The hypothesis which Dr. Borrel is led to formulate is that the acarine is only the carrier, or the inoculating agent, of a highly probable but still unknown cancer virus, and that what acarines can accomplish on the skin other parasites may be able to do in the other seats of cancer. The frequent presence of *Demodex folliculorum* in healthy skin is not against the theory, for it is not to be expected that every parasite carries the infection just in the same way, as every mosquito is not capable of inoculating malaria. According to Dr. Borrel,[2] *Demodex* is also an active agent in the transmission of leprosy. In this case we may assume that the parasite carries the lepra bacillus either on or in its body from an infected person to the sebaceous follicles of another person.

Dr. R. W. Reid, Professor of Anatomy in the University of Aberdeen, recently delivered an address on prehistoric man in Scotland, to the members of the Aberdeen Working Men's Natural History and Scientific Society. He said that in Scotland there seemed to be no trustworthy evidence that palaeolithic man ever existed. In the latter part of the Quaternary period, the British Islands became disconnected with the Continent of Europe, and there was undoubted evidence of the presence at that time of man in Scotland, for not only his weapons and implements but the remains of his bodily structure had been discovered. His weapons and implements were for the most part formed of stone, but as they were more highly-finished than those used by his predecessors, was described as belonging to a newer Stone Age or Neolithic period. In the earlier part of the period there were evidences that man with a rather long type of head existed, and in stature he was a little below that of the present day inhabitant. No special modes of burial could be associated with these people. In the later part of the Neolithic period in Scotland the inhabitants paid more attention to burial and bony remains, with certain of their belongings, had been found in such a state of preservation that a fairly accurate idea could be formed of their appearance and habits. About this time there were evidences of the existence of inhabitants on the east and on the west coast of Scotland of a low stature—about 5 ft. 4 in., but those on the east coast had broad heads, while those on the west coast had long ones. The introduction of bronze into Central Europe began somewhere about 2,000 before the Christian era. It seemed likely that the metal was brought into Scotland by a people who had found their way from Western Asia, through Central France, and across the Channel into England. They were a broad-headed race, and tall, about 5 ft. 9 in. In point of speech—he did not say anatomical in structure—they were the ancestors of the Gaelic-speaking inhabitants of the Highlands of Scotland. They amalgamated with the Neolithic dwellers of the country, as also with tall, fair, and long-haired Teutons who had come at a later period from Continental countries adjoining the North and Baltic Seas and the English Channel. He believed that the Caledonians who were described by the Roman historian Tacitus, who was born A.D. 61, were these same Teutons. The accepted type of the Bronze Age people, or Celts, was a tall, rough, large-boned man, about 5 ft. 9 in. in height, with a broad head, lozenge-shaped face, square sockets for eyes, long and narrow nose, and forwardly projecting jaws. Personal ornaments were found, consisting of stone beads, buttons, discs, pieces of stone shaped in one case as if representing a heart, all perforated as if they had been suspended upon their wearers as amulets or charms. In addition to stone, bone, or ivory ornaments, objects in bronze for the decoration of the person or for superstitious purposes, had been found, such as pins, earrings, necklaces, armlets, pendants, etc. Implements and weapons discovered under conditions similar to those pertaining to personal ornaments exhibited for the most part evidence of highly skilled labour. Traces of the existence of dwellings during the Neolithic and Bronze Age times in Scotland were meagre, and in all probability the early inhabitants during these periods made use of shallow caves or rock shelters. No doubt as time went on wooden huts, and then more elaborately formed "earth houses," "weems," or "Pictish houses" were constructed. The earth houses had a wide distribution throughout Scotland, especially along its eastern side. These prehistoric people built dwellings on islands, both natural and artificial, sometimes on piles driven into lakes as places of safety. The Neolithic people were a pastoral folk, living in clusters of homesteads, cultivating the ground to a slight extent, and having domestic animals which helped to supply them with food, the abundance of game in the forests forming an additional source of support. They might have gone bare-footed, and clothed themselves with the skins of animals, or with knitted or woven garments. In all probability they lived somewhere before 2,000 B.C. The tall, round-headed occupant of the land during the Bronze period possessed a greater amount of culture. He understood the art of working metal, and he erected massive stone monuments and artificial island dwellings. He was skilled in the arts of spinning and weaving, and clothed himself with textile fabrics in preference to skins. He may have been more of a fisher and hunter, and perhaps more of a fighter than the man of the Neolithic time.

[2] Ibid, p. 125-8.

When Mme Curie began the investigation of the mineral pitchblende the only radio-active metal known was uranium. It was found that some samples of pitchblende were from three to four times as radio-active as pure uranium oxide, so that it was obvious that it contained some element much more active than uranium. It contained, in fact, a great number of elements, including lead—an observation proved later to be very significant—bismuth, and barium. The specimens of these last named metals, when isolated, were found to be radio-active, although this is a property that neither possesses in a state of purity. It was ascertained that the radio-activity was due to the presence of two new elements mixed in minute quantities with the bismuth and barium. To that associated with bismuth Mme. Curie, out of regard to her native country, gave the name polonium; to the other, discovered shortly afterwards in association with barium, the name radium. The latter metal, it has now been shown, is derived from uranium by a process of atomic disintegration, attended at certain of its stages by radio-active phenomena; the radio-activity of radium itself is likewise attended by atomic disintegration. The atomic weight of radium is 226; after the alpha rays, which are believed to consist of atoms of helium, have been expelled, the "emanation" left has an atomic weight of 222. This emanation yields radium A (218), then radium B, and radium C (214); the changes from radium A to C are rapid—a matter of hours. Radium C gives off beta and gamma rays, and also alpha rays (helium), changing into radium D (210); its period of change is long, to be measured in years; it yields radium E_1 and E_2, and the latter changes into radium F, which is polonium. These last changes occur in a few days. In chemical characters polonium resembles bismuth, and, as has been said, is found in association with that metal. The radio-activity of polonium is entirely due to the expulsion of alpha rays, and this would reduce the atomic weight to 206. If this be the end of the uranium-radium-polonium course of atomic disintegration, the assumption that the residual substance with the atomic weight 206 must accumulate in the minerals containing the elements of the series, and must therefore be a common element, seems justified. Lead, the atomic weight of which is 207, occurs in considerable quantity in all the common minerals containing uranium, so that it has been thought to be the most probable terminus, the only alternative being bismuth, the atomic weight of which is 208·5. Mme. Curie has this week communicated to the Académie des Sciences in Paris a paper in which she states that she has been able, working in conjunction with M. Debierne, to prepare, by treating several tons of pitchblende with hydrochloric acid, one-tenth of a milligram of polonium, and to observe its properties. Its radio-activity proved to be more intense than that of radium; it cracked a quartz vase in a short time, and decomposed organic bodies with extreme rapidity. It wasted very rapidly, losing 50 per cent. of its weight in 140 days. It emitted helium, as was anticipated; but the exact nature of the residue has not been determined, though it is believed to be lead, and this also would, as has been pointed out, be in accordance with anticipations.

Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

PROPOSED HOME FOR PAYING PATIENTS IN EDINBURGH.

TOWARDS the end of last year a proposal was mooted to establish in Edinburgh a new medical charity for gynaecological patients, with an unpaid medical and surgical staff, the patients admitted to pay a small weekly sum for board. The matter was discussed at a private meeting summoned by the Lord Provost on December 7th, and though reporters were not present, a report of the proceedings was subsequently issued to the press. The Lord Provost said that he believed a need existed in Edinburgh for a small hospital or home for the treatment of women suffering from diseases peculiar to their sex, who were able and willing to pay towards the expense of their board but were not able to pay for an expensive operation, and who did not care to go into a hospital such as the infirmary. In the course of the discussion it was stated that it was intended that the payment to be made by the patients should be at the rate of 10s. to £1 a week. Mrs. Johnston, the Honorary Secretary of the Edinburgh Hospital and Dispensary for Women and Children, which received paying patients, protested in the name of that institution, which, she said, was at present engaged in erecting a gynaecological wing. Dr. Chalmers Watson said that while the promoters of the meeting had done well to bring before the public the needs of a very important section of the community, it was at the same time necessary to see that any institution established should tend to lessen the abuses of hospitals, and should not be detrimental to the interests of a large section of the medical profession. Mr. Cathcart, Surgeon to the Royal Infirmary, mentioned the existence of the Rutland Home, started some years ago to meet the wants of those who did not wish to be in a public hospital, and could not afford the charges of private hospitals or homes. Since it had been managed by a committee of medical men it had been very successful, and he thought that some compromise on that basis might be arrived at. Dr. McGibbon stated that the matter had been under consideration for more than a year, and added, in reply to Mrs. Johnston, that though the highest respect was felt for the women doctors who managed and staffed the Edinburgh Hospital for Women, there was no corresponding institution for women, of whom there were hundreds, who wished to be treated and operated upon by medical men. At the conclusion of the meeting a provisional committee was appointed, and it was announced that a public meeting would be called this month to discuss the matter further. No notice has yet been given, we believe, of the date of this meeting.

Since the nature of the project became known it has been considered by the British Medical Association in Edinburgh, and by the Edinburgh and Leith Medical Practitioners' Association. Dr. Chalmers Watson presented the following statement of his views, partly founded upon his experience of the Rutland Home:

The Advantages to Patients and Practitioners of Paying Hospitals or Nursing Homes for Private Patients Run at the Lowest Possible Rates.

By Chalmers Watson, M.D., Assistant Physician, Royal Infirmary, Edinburgh.

The two questions to be discussed were:

1. The soundness of the principle involved.
2. The practicability of giving effect to that principle.

The following are Dr. Chalmers Watson's observations:

I.

"It is perhaps hardly necessary for me to indicate that I here use the word 'practitioner' in its widest sense, to include all those who are actively engaged in the treatment of disease. For my own part I believe that it is advisable that such hospitals should exist. I would go a step further, and say that their existence is fast becoming a necessity.

"Little or no facilities are at present available for the hospital treatment of that very large and important section of the public that lies between the poor and the rich. I think that one result of this has undoubtedly been the development in an increasing degree of a tendency on the part of a section of the public who are neither very poor nor very rich to take advantage of the medical treatment afforded by charitable institutions which are only intended for the poorer classes. And the development of this tendency has brought two things in its train:

"1. It has interfered to a not inconsiderable extent with the income of the profession as a whole, and, what is still worse,

"2. It has developed in a section of the public an attitude of mind towards free medical treatment which is essentially unsound.

"Who is responsible for this? I submit that we ourselves are to a very great extent responsible. It is surely the duty of those who are engaged in the treatment of disease to see that patients in this large and important section of the public have reasonable facilities for good hospital treatment. By reasonable facilities I mean facilities which commend themselves alike to their purse and to their pride. Personally, when I read about hospital abuse in its various forms, it always strikes me that the fault lies quite as much at the door of the profession as that of the public. And it seems to me that, just as the present position is to a great extent a creation of the profession, so we must look to the profession for its correction. And I submit that one of the directions in which correction is to be sought, is in our acceptance of the principle which we are now discussing and by giving effect to that principle in practice.

"Now, this subject has of late been receiving consideration in various quarters. At the British Medical Association Meeting held in Sheffield in 1908, the question of self-supporting nursing homes was discussed and, under the heading 'Definition and Desirability,' the following finding was passed:

> "That it is desirable that self-supporting nursing homes should be established for patients who, being ineligible for the voluntary hospitals, are yet unable to pay the customary professional fees as well as the charges made in private nursing homes.

"I mention this as evidence of the attention which the subject is now receiving, and of the fact that in the main the principle which I am bringing before you is one which has already commended itself to the British Medical Association. So far as I am aware, however, the principle has not yet been carried into effect, or, at any rate, only on too restricted lines.

"I have made inquiries into the facilities afforded in different places, and find that they are as yet of the most meagre description. I have made inquiries from physicians and surgeons personally known to me engaged in active practice in such centres as London, Glasgow, Manchester, Liverpool, Newcastle, Cardiff, Oxford, and find, as I have stated, that the facilities available are very restricted.

"In Edinburgh one of two courses is open to us with this class of case. We may send the patient to the Chalmers Hospital, an endowed institution, where the patient pays board and gets medical and surgical treatment free; in these circumstances the practitioner has no further direct interest in his patient. Or we may get him admitted to a private nursing home, *ex gratia* rather than *ex jure*, for the minimum rate of 2 guineas or thereby. In these circumstances the patient is getting, or may feel that he is getting, his medical board under the market rate; the medical man is getting a favour. The position is not a satisfactory one, either for patient or practitioner. Is there no better alternative scheme? I believe there is, and this brings me to the second point on which discussion is invited.

II.

"The practicability of forming a hospital on the lines indicated, which would be mutually advantageous to our patients and to ourselves. I will

merely introduce this part of the discussion by submitting in the briefest possible manner my own views, and the data on which they were based.

"I believe that it is desirable in the interests of our patients to have in Edinburgh a private hospital of approximately 50 beds, this hospital to be thoroughly well equipped along modern lines. The hospital should be self-supporting.

" 15 to 20 beds at 1 guinea per week.
" 15 to 20 beds at 2 guineas per week.
" 15 beds at 3 guineas per week.

"There must be a certain number at higher rates to make up the deficiency on the 1 guinea beds, as these beds could not be self-supporting. We must all have experience of a deserving class of the community to whom the sum of 1 guinea a week is equivalent to at least 5 or 6 guineas paid by another class of patient. It is true that there would be a risk, in connexion with beds, say, at 1 guinea, of unfair advantage being taken of them; but I think this difficulty could be overcome. But in any case it is probable that the majority of the patients who would be taking such unfair advantage would be the patients who would otherwise be in the infirmary or similar institution, to the detriment of the charitable institution. If we assume that such a hospital would be kept two-thirds full—and I think this is a fair assumption—it would yield an income of over £3,500 a year, a sum which I believe would be more than sufficient to meet all the charges which would fall to be met.

"Now, it will be said that it is easy to talk of a hypothetical income of £3,500, estimated on a purely theoretical basis. It does at first seem that the assumption I have made is a very large and unwarranted one. It is not, after all, such a large assumption, nor is it, I think, entirely unwarranted. When I say that it is not a large assumption I am assuming that practitioners would accept the principle that the scheme was one which was mutually advantageous to themselves and to their patients. If this principle was accepted, the success of the hospital would, I submit, be assured. I have said that the assumption is not entirely unwarranted; there is some basis for the figures given. I can speak from personal knowledge of a small nursing home of fourteen beds, which has been run on the lines suggested, and it is of interest to note the returns of that home for the past year. The admissions to the home were 148; of these, 120 paid at the rate of 2 guineas a week, 24 at 3 guineas a week, and 4 at 30s. The total income for the year was £1,187; the total expenditure was £1,033, there being an actual profit for the year of £153. These are striking facts, and of some value in the present discussion. If such a result is possible in such a small hospital, with its restricted support, then the figures I have estimated are, I believe, in no way excessive, provided the soundness of the scheme proposed and its mutually advantageous character is generally recognized by practitioners.

"I have purposely avoided any reference to the question of ways and means in connexion with initial capital expenditure for such a scheme. An approximate estimate on this can fairly easily be made. But what from a business point of view is at this stage of greater importance is the question of its annual income. If such figures as I have given are approximately correct, the income would, I feel sure, be ample to meet all the charges on the initial outlay and upkeep. The income has been estimated on the assumption that this scheme recommends itself as mutually advantageous to our patients and ourselves. In an earlier part of my remarks I indicated that such a scheme is in my opinion not only advisable, but is fast becoming a necessity. And I think we should give our most careful consideration to a scheme which I submit would confer signal advantages on our patients, and would at the same time react favourably on existing charitable institutions."

At a meeting of the Edinburgh Branch on January 26th, which was attended by over thirty members, a resolution was adopted by a large majority to the effect that the proposed new hospital on a contributory basis for women in Edinburgh, with a limited staff, was undesirable; subsequently, certain members having withdrawn, a resolution was unanimously adopted approving a scheme for a paying nursing home open to all medical or surgical patients, male or female, to be attended by any physician or surgeon of the patient's choice, and a deputation was appointed to confer with the Charity Organization Society on the subject. Meanwhile the Edinburgh and Leith Medical Practitioners' Association took a plebiscite of its members; 287 voting papers were sent out, and 200 were returned, 2 papers were spoiled, and 12 members did not vote on both questions. The result of the plebiscite was as follows:

175 against the proposed new hospital on a contributory basis, with a limited staff.
19 in favour of it.
178 in favour of a paying nursing home, and
12 against it.

EDINBURGH AND ST. ANDREWS UNIVERSITY ELECTION.

The University election has been lost and won—a distinguished member has been sent to Westminster, and a distinguished physician returns to private life. We in Edinburgh are proud of our member, and we are proud of his late opponent. Both are Doctors of Medicine of the University of Edinburgh; and both, if for that reason only, possessed strong claims upon us.

In the halls of Westminster, on the Conservative benches and on the Radical benches, the number of medical men is conspicuously small, and even this small band is considerably diminished if one seeks for those men who have largely occupied themselves with practical medicine. For the great majority of practical medical men their profession is a mistress who demands of them much time, much labour, and much thought. The science of medicine is old as the human race and young as the newest stain, reaction, or test of to-day; she exacts from her devotees laborious student years of concentrated work, she compels outlook on a panorama of medical lore merging in many directions into the mists of hypothesis and imagination—a panorama the right recognition of whose broad outlines is the first important step in the development of the embryo medical practitioner. Later she calls for the study of individuality, of the inherent characteristics of the individual bodily tissues, of the materialistic nature of the individual; and, further, the relation and reaction of each nature to disease processes and the possible methods of most adequately seconding the efforts of the *vis medicatrix Naturae*.

The profession of medicine apparently offers many enticements to the aspirations and ambitions of the young men and women of to-day. The profession is crowded and competition is keen; the majority of incomes are slender, and he who puts by an adequate competence during middle age is fortunate indeed. Hard work is essential for success—very hard, engrossing work—and success is achieved only in later years. For a favoured few the goal is reached more easily or the pathway is eased by independent means; but looking to the conditions of life of the bulk of medical men, it is easy to see why the band in Parliament is so small.

Is this as it should be? Surely not. The trend of national domestic legislation must at all times be largely guided by the dictates of scientific medicine. The modern developments in domestic legislation and the modern developments of medicine are appreciably tending to more and more influence each other. The stability, the virility of the nation is largely dependent upon the healthy minds and bodies of its people. Lord Rosebery, replying at Glasgow last month to the toast of "The Imperial Forces," includes the "manhood of our people." And the nature of our manhood is largely determined by our mental and physical environment, and these again by the nature of their response to the dictates of modern medicine. The answer to sociological questions of many kinds is, of necessity, largely influenced by medical opinion, and the voice of the medical profession is a force of great

potency. But are medical men taking that prominent place in the treatment of sociological problems which they are entitled to occupy and which their expert knowledge demands of them? Is the body of the great medical profession definitely directing its attention to acting as pioneer and to guiding through the shoals of difficulties those great national enterprises with which to-day we are confronted? Are we medical men fully alive to our own powers, our own possibilities, and our own duties to society in general? Is it not desirable that we should have to represent us in the legislative fount men of our own profession—broad-minded men of practical medical experience, who are an ornament to their profession, and fitted on occasion to voice authoritatively the views of the profession to which they belong? And for such men what more fitting seat than a university? And what seat more fitting than that for Edinburgh and St. Andrews? The Edinburgh medical school is a power in the medical world of no inconsiderable force, her alumni occupy foremost positions in all the great cities of the empire, and every year she adds hundreds of names to the *Register* of medical men. Such a body of men and such a mass of professional opinion demands professional representation in the Imperial Parliament, and not only demands it, but likewise owes it to the university and the Imperial Parliament that the advances in knowledge and the practical medical matters evolving from it should be directly made over as an asset of the nation at large.

SCOTTISH POOR LAW MEDICAL OFFICERS' ASSOCIATION.

The annual meeting of the Scottish Poor Law Medical Officers' Association was held in Glasgow on January 28th.

The report of the committee for 1909 stated that a large amount of correspondence had been entailed in supplying applicants with information with regard to certain appointments declared vacant, and added that thanks were due to the outgoing medical officers who willingly supplied the necessary details. While continuing to advertise when necessary in the medical journals, the committee were glad to be able to state that no case occurred during the year which necessitated the use being made of the warning notices in medical journals; this was a marked improvement on the previous experience, and showed that parish councils did not now so readily treat their medical officers with gross injustice. A large number of members had asked their advice upon very varied subjects, and a few typical cases were quoted. Owing to the general election the committee were not in a position to state whether the Parochial Medical Officers (Scotland) Bill, promoted by the association, would again be introduced into the House of Commons. The committee desired to be guided by the advice of those members of Parliament who had taken an interest in the bill and by the opinion of the members of the association.

The financial report showed that the work of the association is carried on with extraordinary economy, and the committee appeals to every member of the Poor Law medical service to join its ranks.

Attached to the report is a copy of the statement made by the association showing the respects in which, in its opinion, the law of Scotland ought to be altered in the interests of the public and the medical service. The committee congratulated the association on the results of the recommendations of the Royal Commission, every point put forward by the association having, with trifling exceptions, been accepted.

The committee concludes its report in the following words: "Your committee think that our association is to be congratulated on the result of the recommendations of the Royal Commission. Every point, with trifling exceptions, has been agreed to, and it now remains for us to do our best to get the recommendations duly incorporated in any legislative enactment which may be brought before Parliament." Every parochial medical officer in Scotland should become a member of this association, which has done so much good in he past, and still continues to watch the interests of the parochial medical officers, having by the advice given prevented, in many cases, medical men from accepting appointments which had entailed many hardships to the previous occupants. The energetic secretary, Dr. W. L. Muir, 1, Seton Terrace, Dennistoun, Glasgow, still continues in office, and is always willing to give much useful information to applicants for parochial appointments in Scotland.

THE BRITISH MEDICAL ASSOCIATION IN GLASGOW.

The smoking concert organized by the local Branch of the Association proved very successful. It took place in the Grosvenor Restaurant, under the chairmanship of Professor Stockman, and there was a large attendance of medical men. The chief feature of the evening was an excellent address by the Medical Secretary of the Association, who emphasized the great importance of united action on the part of the profession in matters of medical policy. To ensure such unity it was essential that there should be some unifying organization, and the advantages which the British Medical Association afforded in this respect were urged. It possessed the necessary organization, and already had accumulated much experience in the handling of medical questions. After illustrating some of the occasions on which the intervention of the Association had proved successful, the speaker went on to say that one of the crucial questions always put sooner or later when approaching a public body or a Government department was what proportion of the medical profession was represented. The Association already claimed about two-thirds of the total number of medical men as members, and was in a very true sense the most representative body of the general practitioners. But the more members it possessed the more potent it became, and he urged on those present the advisability of gathering in those professional brethren who were not yet members. Of particular interest to the local members, conscious of their recent failure to influence the Glasgow School Board, was Dr. Whitaker's statement that in his experience the first attempts at local concerted action often proved unsuccessful, while later efforts attained success. At a later stage of the proceedings the two local representatives on the Central Council gave a short report of some of their work, which greatly impressed those present with its variety and extent.

DUNDEE TOWN COUNCIL AND SIDLAW SANATORIUM.

At a recent meeting of the Dundee Public Health Committee a letter was read from the directors of the Royal Infirmary explaining their proposals for taking over Sidlaw Sanatorium in accordance with the gift of £10,000 by Mr. J. K. Caird, and suggesting that the Town Council should send a minimum of seven patients, at a cost of £1 10s. each a week, equal to a total contribution of £546 per annum. The Medical Officer of Health expressed the opinion that much good would be effected even by the limited accommodation proposed to be placed at the disposal of the Council. The Lord Provost moved the approval of the arrangement, and said that Mr. Caird's gift had to be exhausted within ten years, but he believed that before that time expired there would be imperial legislation to regulate the action of the Town Council. The proposal was agreed to, and it was decided that the cost should be placed on the public health rate.

AIR PURIFICATION CAMPAIGN IN GLASGOW.

At a largely-attended public meeting convened recently by the Lord Provost, representatives from numerous burghs within the Clyde Valley being present, a Glasgow and West of Scotland branch of the Smoke Abatement League was formed. Organized effort will now be made to educate the public, improve the administration of existing laws, secure fresh legislation, and encourage the use of gas and smokeless fuel for domestic purposes. It is recognized that the smoke evil can be cured in Glasgow, as in other places, by a determined crusade; and the experiences of the health authorities during the past winter have served to bring matters to a crisis.

Two lectures bearing on the subject have recently been delivered under the auspices of the Glasgow Health Culture Society. The first dealt with the lighting and heating of the home, by Mr. Alex Wilson, Manager of Glasgow Corporation Gas Department, and a demonstration of lighting and heating appliances was given. At the second lecture Mr. J. W. Graham, Principal of Dalton Hall, Manchester University, dealt with the smoke evil, its causes and cures. He said that the average age at death in the whole country was 44 years, and in the country districts 52 years, while in the central districts of large cities it was 29 years, owing mainly to pollution, which had to be fought, and the great thing to fight was air pollution.

PROPOSED FREE WATER SUPPLY FOR GLASGOW.

Considerable interest has been aroused in Glasgow by two speeches delivered by the Lord Provost, in which he referred to the question of a possible free water supply for the city. The lower the water rate, he said, the better for the people, and he thought it was quite feasible to have a free supply. The suggestion appears to be that the amount involved, about £37,000, should be paid from the Common Good, and as the tramway department balance is added to this each year, it is said that the Common Good fund may give a surplus of from £50,000 to £100,000. At present a penny rate brings in £9,000 in the city, and the water rate is 4d. Outside the city boundaries the rate is 10d. for burghs supplied by the Glasgow Corporation Water Department. The Lord Provost added that, while jealousy might arise, the case for the amalgamation of the outside burghs with the city would be considerably strengthened. A good deal of discussion has been going on since the project was mooted, but it will be some little time before the matter is ripe for consideration by the Town Council.

GLASGOW MATERNITY HOSPITAL.

A special meeting of the general court of contributors was held last week to consider the new rules and regulations which have been drawn up for the government of the hospital. The new constitution provides for the addition of two working men representatives on the Board of Directors, and Mr. M. Pearce Campbell, Lord Dean of Guild, who presided, stated that from his experience of similar arrangements with regard to other institutions the results would be satisfactory. The constitution as amended was agreed to.

THE MORISON LECTURES.

The Morison Lectures before the Royal College of Physicians of Edinburgh will this year be delivered by Dr. W. Aldren Turner, Lecturer on Neurology at King's College, London, on February 28th. March 2nd, and March 4th, at 5 p.m. on each day. The lectures will deal with epilepsy, its symptoms and causes, its borderland, and its treatment.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

SALARIES OF IRISH DISPENSARY MEDICAL OFFICERS.

IN many parts of Ireland attempts have recently been made by the dispensary doctors of the different unions to induce the boards of guardians to establish graduated scales of salaries for their medical officers, with increases every three to five years, until a maximum has been attained. These applications have been favourably received in many instances, more especially in the south and west of Ireland, but some of the guardians still remain unsympathetic. This has been the case up to the present in the Downpatrick and Enniscorthy unions, while in Limerick, where an increase was voted a couple of months ago, a rescinding motion proposed at a subsequent meeting was only defeated by a small majority. At Downpatrick one of the spokesmen for the medical officers pointed out that the average salary they received was £100 a year, or about 5s. 6d. a day, just equivalent to the wages of an ordinary stonemason. Out of this sum the expenses of working the district had to come, and as a single call on a visiting ticket often necessitated the hiring of a car at from 4s. to 5s., the net day's wages on which the doctor was expected to live were reduced to about 6d. After considerable discussion a motion to adopt a graded scale of salaries was lost by 16 votes to 13, the main objection to making any change at present being the expected revolution, to be brought about by legislation, in the Poor Law system. As many of the guardians admitted that the present salaries are inadequate, this objection does not appear to us sufficient to warrant the refusal to deal fairly with their medical officers, more especially as it is possible that if the expected changes are brought about, the present low salaries will be taken as the starting point in fixing rates of pensions or of remuneration in the future. At Enniscorthy, where all the doctors, with one exception, have long service, reaching in some instances to over thirty years, the discussion of their request to fix a graded scale of salaries, has for the present been adjourned by the unanimous wish of the members of the board of guardians.

BELFAST MILK SUPPLY.

The monthly meeting of the Hillsborough Rural Council, held on February 11th, had before it an important communication from the Local Government Board, stating that an application had been received from the Corporation of Belfast for powers of inspection and control of dairies in outside districts from which the milk supply of the county borough was derived. Quotations from the report of the Medical Superintendent Officer of Health for Belfast were given, and the letter ended by stating that while the board would not be disposed to grant such a request, where the rural council had shown itself willing to carry out the Dairies, Cowsheds and Milkshops (Ireland) Order of 1908, the board desired to impress on the council and its inspecting officers the necessity of affording all possible protection to all consumers. A sanitary sub-officer said the greatest offenders were the small farmers, who met Belfast milkmen on the road and delivered their milk to them.

RESIGNATION OF AN ASYLUM MEDICAL SUPERINTENDENT.

At a recent meeting (February 10th) of the County Monaghan and Cavan Asylum Board a letter was received from the resident medical superintendent, Dr. R. L. Donaldson, stating that owing to an injury received about twelve months ago from a patient while in the discharge of his duty he found that after several months' leave of absence he was still unfit for work, and he feared that it might not be possible for him to continue to discharge his duties without injury to his health. He was now in the twenty-fifth year of his service, and he asked the committee to take into consideration his superannuation. The members expressed sympathy with Dr. Donaldson in his continued ill health, and testified to the efficiency shown by him in the discharge of his duties. It was decided that the question of superannuation should be considered at the next meeting.

NECROPSIES IN LUNATIC ASYLUMS.

At the monthly meeting of the Committee of Management of the Tyrone and Fermanagh Lunatic Asylum, it was proposed, seconded, and decided:

> That in future *post-mortem* examinations be confined to sudden or accidental death and to cases where the cause of death was uncertain, and not, as at present, on the bodies of all unclaimed persons.

Some boards seem bent on retarding the advance of medical knowledge.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

MANCHESTER AND DISTRICT.

The Admission of Women to the Resident Posts at the Royal Infirmary.

So great has been the pressure brought to bear on the Board of Management of the Royal Infirmary to appoint women to the resident posts at the infirmary, that the board thought it necessary to appeal to the whole body of the trustees, and after the ordinary business of the annual meeting of the trustees last week, Sir Wm. Cobbett, the chairman of the board, officially proposed a resolution in the following terms:

> That it is not desirable to appoint women to resident medical and surgical posts in the Manchester Royal Infirmary.

He said there had been some misconception as to the attitude of the board. His statement that the board were in sympathy with the desires of the medical women had been interpreted into meaning that the board at one time decided in favour of the appointments, and that the only obstacle was want of accommodation. That was not the case. He also regretted that the university had been put forward as if it had been taking a part in bringing pressure on the board to make the appointments. A letter was read from Dr. Hopkinson, the Vice-Chancellor of the university, stating that questions relating to the internal management of the infirmary should be settled by the board itself, and that it should be clearly understood that the primary work of the infirmary was to afford the best medical and surgical assistance for the poor in cases of illness and accident. Dr. Hopkinson continued: "I am afraid there has been some misconception as regards the position of the university in the matter. The university has not expressed any opinion on the subject under discussion. Whether or not it is right for it to do so is a question for its supreme governing body, namely, the Court, to determine." What has really happened is that the University Convocation passed a resolution asking the Court to use influence with the infirmary board to reconsider its refusal to appoint women, but the Court had taken no action.

The resolution was seconded by Bishop Welldon, Dean of Manchester, and supported by Mr. J. E. Platt, Chairman of the Medical Board, and Dr. Reynolds and others. An attempt was made by Mr. A. Simpson, supported by Professor Schuster, to postpone any decision, and Mr. C. P. Scott moved: "That the question be not now put." This was duly seconded, but, after some remarks by the Chairman, was withdrawn.

Mr. Scott moved to add to the resolution the words "on the same terms as men." The effect of this would have been to recommend the board not absolutely to close the door against women as residents. On being put to the vote, a considerable number of hands were held up for the amendment, but it was lost by a large majority, and the original proposal of the Chairman was then put, and carried also by a large majority.

LONDON.

Treatment of School Children in Woolwich.

At the meeting of the Education Committee of the London County Council on February 16th further steps to secure the medical treatment of school children in districts remote from hospitals were reported. The Committee of the Woolwich and Plumstead Cottage Hospital, Shooter's Hill, was prepared to undertake the treatment of 1,000 children suffering from eye, ear, nose, and throat ailments, and proposed, pending the building of a new general hospital in Woolwich, to fit up an out-patient department in the centre of Woolwich for the purpose. The medical staff of the hospital would attend this department at specified times for the treatment of school children, it being understood that serious operations would be performed at the Cottage Hospital, Shooter's Hill. The Education Committee understood that the qualifications of the medical men who would treat the children were satisfactory, and that they would be able to avail themselves of a consulting staff when necessary. The terms on which the hospital authorities were prepared to undertake the work were in general agreement with those made with most of the other hospitals—namely, £50 a year for each clinical assistant working one half day per week, and a payment of 2s. for each case treated. The committee recommended that an agreement be entered into for the treatment of not more than 1,000 children during a year, beginning on April 1st, 1910, and that expenditure not exceeding £250 be sanctioned in connexion therewith. The agreement provided that one clinical assistant should be provided for the treatment of eye cases and one for ear cases, and that when an anaesthetist was necessary for cases requiring operations he should be paid at the same rate as the clinical assistants. The recommendations of the report were agreed to.

WORCESTER.

Control of the Feeble-minded.

In a speech at a meeting at Worcester Shire Hall on February 7th Mrs. Hume Pinsent dealt with the question of the control of the feeble-minded, which she said was at present in a state of chaos, as there were four Government departments dealing with the mentally defective, which disagreed in the regulations they put forward. She dealt with two fundamental ideas—continuity and unity of control. The respectable working man was discouraged in his attempt to make provision for his mentally-defective child, for, if he did what it was his obvious duty to do, he was made a pauper. The need for one authority to look after the mentally defectives was even greater after the children had reached the age of 16 years, when they must be dismissed from school, as all their expensive education would be wasted if control over them was lost at that time. It was almost impossible under the present system to persuade respectable parents to apply to the guardians. The income of such families usually varied from 30s. to £3 a week, and it was impossible to spare from it 8s. or 12s. 6d. a week to maintain a defective child at an institution. In conclusion, Mrs. Pinsent pointed out the urgent necessity of preventing the birth of these people, and that the continuous segregation of the feeble-minded was the only means at present possible. Each year's delay meant a fresh batch of boys and girls mentally defective, a fresh number of criminals, and many additional people who never intended to work, or who would never be fit to do so. It was necessary to secure, first, industrial training, and, secondly, continuous control over the mentally defective. A resolution was proposed by the Dean of Worcester, and was unanimously carried, urging immediate legislation on the lines recommended in the Report of the Royal Commission. Copies of the resolution have been sent to the Home Office, the Local Government Board, the Lunacy Commissioners, the Board of Education, and the local members of Parliament.

The next meeting of the International Congress of Hygiene and Demography was originally announced to take place in Washington, D.C., in September–October, 1910. In a letter dated January 29th, 1910, the Secretary-General of the Congress, Dr. John S. Fulton, announces that it has been decided to postpone the holding of the congress until 1911 or 1912.

The meeting of the Royal Meteorological Society on Wednesday, February 23rd, is to take place in the Physical Laboratory of the University of Manchester. The proceedings, which include a paper recording results of hourly-registering balloon ascents from Manchester last June, will commence at 5 p.m. On their conclusion the Fellows will dine together in the University refectory.

MEDICAL MATTERS AT THE LABOUR CONFERENCE.

THE annual Conference of the Labour Party held last week at Newport, Monmouthshire, adopted several resolutions bearing upon matters of interest to the medical profession.

One was a resolution endorsing the unanimous recommendation of the Royal Commission on the Poor Laws that the general mixed workhouses and existing boards of guardians should be abolished, and generally supporting the proposals contained in the Minority Report for the break-up of the Poor Law.

Another resolution adopted was as follows:

> That the conference disapproves of the action of local education authorities in appointing medical officers who are permitted to engage in private practice, and urges the Government to make such amendments of the law relating to the medical inspection of children as would provide that every medical officer appointed by a local education authority shall be precluded during the holding of such appointment from engaging in private practice, and from holding any other office except that of medical officer to a local sanitary authority or to some other local education authority.

Another resolution urged the parliamentary Labour group to press for legislation with regard to the following matters:

(*a*) For the immediate amendment of the Education (Provision of Meals) Act so as to empower a local education authority to compel the attendance at school meals of any child certified by the medical officer to be underfed or badly nourished, and to feed the children during the school holidays.
(*b*) To make it obligatory upon a local education authority to equip every school with efficient baths, such baths to be under the control of the local education authority.
(*c*) To secure that the Education (Provision of Meals) Act, 1906, shall become compulsory.
(*d*) That the cost of the local education services should be more largely assisted by national grants in aid, the basis of such grants being determined by the physical condition rather than the mental attainments of the children.

The last clause was criticized, but the resolution was carried.

A resolution was moved on behalf of the cotton-spinners in favour of amendments in the Workmen's Compensation Act to provide as follows:

(1) That a doctor connected with an institution in which an injured workman is a patient shall not (without the consent of such workman) furnish to or for the employer any report as to the condition of the workman, and that a copy of every such report shall be furnished by such doctor to the workman.
(2) For compulsory insurance by employers against accidents to workmen, and for the fixing of a minimum weekly payment of 12s. during the total incapacity of persons over 21 years of age whose average weekly earnings during the twelve months preceding the accident were less than 24s.

The part of the resolution referring to compulsory insurance by employers was resisted mainly on the ground that it would militate against the successful consideration by the Government of proposals for State insurance, and it was deleted.

A resolution to the effect that the liability under the Workmen's Compensation Act should be a charge payable by the Imperial Exchequer was resisted on the ground that to transfer the liability of the employers to the State would remove one of the main checks to carelessness and indifference on the part of the employers. The resolution was defeated on a card vote by 592,000 to 193,000.

THE "Radium Institute of America" has been incorporated; its primary objects are to "discuss and study radium and radio-active substances in the interest of science and humanity." It is proposed to maintain clinics, laboratories, libraries, and meeting rooms for the distribution of the publications of the institute. The institute will have its head quarters in New York, but may also operate in other cities of the United States. Among the directors are Dr. Nicholas Murray Butler, president of the Columbia University; Dr. Edgar F. Smith, of the University of Pennsylvania; Professor Charles F. Chandler, of Columbia University; Dr. Willy Meyer; and Dr. William Hallock, dean of the School of Pure Science, Columbia University.

Special Correspondence.

VIENNA.

Jubilee of Professor Politzer.—Proposed Legislation against Quackery.

THE well-known aural surgeon, Professor Adam Politzer, recently celebrated the fiftieth anniversary of his graduation, and the esteem he commands amongst his brethren was well shown by the manner in which this occasion was made use of to do him honour. The senate of the university presented him with a renewed diploma of M.D., following an old custom which is in use here. The Austrian Otological Society, of which Politzer is the only honorary member, celebrated the anniversary by offering its formal congratulations to the professor in his own house. Professor Urbantschitsch, President of the Society, delivered an address. A golden wreath was presented by the Otological department of the policlinic, and numerous surgeons from all parts of the world were present at the ceremony, amongst them Mr. Cheatle, representing the British Otological Section of the Royal Society of Medicine. Politzer presented his very valuable library, containing some 4,000 volumes, among them being several unique books, to the library of the university. A part of the collection consists of old manuscripts which he had procured with greatest difficulty when compiling material for his *History of Otology*. In spite of advancing age Politzer is still vigorous, and the scientific leader of his speciality in this country.

At a recent meeting of the Medical Councils of Austria, a strong feeling was expressed that legislation was necessary in view of the increasing leniency with which quacks were treated by judges. As the present law is too elastic in this respect, the following amendment was recommended by a resolution to the House of Parliament now sitting:

> Whoever undertakes to treat or cure one or more persons, whether receiving for it any payment or not, without being in possession of a fully recognized diploma granted by a medical faculty of the Austrian Empire, or producing a duly recognized and notified diploma granted by a foreign medical faculty, shall be charged with committing a crime, punishable with imprisonment of at least one month, and not exceeding three months. Only in cases of emergency and on special occasions shall any exception to this regulation be admitted.

Should death follow such unqualified treatment, a charge of manslaughter or murder, according to the circumstances, shall be made against the person responsible for the result. A stricter supervision of the so-called ready-made medicines (we have no patent medicines in strictly the same sense as the English proprietary medicines) was also demanded, especially those dealing with "masculine weakness" and similar conditions. A mysterious poisoning affair, in which a military officer fell a victim to a powder disguised under the mantle of a patent medicine of this kind, has called the attention of the general public to the possibilities of an uncontrolled abuse of public credulity.

Correspondence.

APPENDIX DYSPEPSIA.

SIR,—Mr. Moynihan's reply to my criticisms of his paper is as follows:

> The thoughts which my paper embodies are new to him. . . . I am sorry this should be so, for it is evident that Mr. Bowlby and I are not yet equally equipped for a profitable discussion of this large, intricate, and important subject.

I suppose, Sir, I am correct in concluding that this rather cryptic utterance is a very polite way of saying that I am really too ignorant of the subject of appendicitis in its relation to dyspeptic and other abdominal pains to appreciate any further explanation. But I can assure Mr. Moynihan that not only are the "thoughts which his paper embodies" not new to me, but that I have myself some six years ago (*Lancet*, June 9th, 1904) pointed out in a clinical lecture that so-called "indigestion" and sick-

ness and "stomach attacks" may be due to attacks of appendicitis which are not recognized as such; and in the same lecture I explained how diffuse abdominal pain, remote from the appendix region and consequently misleading, may be caused by distension of the appendix, and may be relieved when the distension is relieved. So I hope that Mr. Moynihan will see that my want of knowledge is not so great as it must have seemed to him to be. There is, indeed, nothing new either in my observations or in Mr. Moynihan's statements that appendicitis may cause epigastric pain and flatulence, and may thus deceive the public into the belief that these are due to "indigestion" or "dyspepsia," and may also draw the inexperienced observer away from the real seat of the trouble, for surely this is all perfectly well known to every surgeon of experience.

What I took exception to was that Mr. Moynihan's description of "appendix dyspepsia" is so "vague and inclusive" that it confused very different conditions, and gave no clear guidance as to which were and which were not cases for operation.

May I also suggest that the name "appendix dyspepsia" is an unfortunate and misleading one in itself, for hitherto the word "dyspepsia" has been applied by the medical profession to stomach and small intestine troubles alone? Mr. Moynihan himself points out in his paper that many cases of what the public call "flatulent dyspepsia" are really cases of gall stones, so it would be equally correct to call these "gall-stone dyspepsia"; and, further, to call the stomach troubles of a loose kidney "renal dyspepsia." But the fact that the public confuse all these different stomach-aches and call them all dyspepsia is no reason for surgeons doing the same.

It is now ten years since I first saw a patient who suffered from typical intractable gastric dyspepsia of long standing, whose appendix was subsequently removed, though not by my advice. He was at first considered to be a very successful case, and believed himself that he was better. Yet time showed that this was not really the fact, and some years later another surgeon performed the operation of gastro-enterostomy on account of the return of all his old troubles. But this is not an isolated instance, and it is with the experience of those disappointing and unfortunate cases in my mind that I am quite unconvinced that serious pains and discomforts referred to the stomach region alone can be due to an appendix which causes no local symptoms, when these are carefully inquired into and sought for by a competent surgeon or physician. And, although the pain of acute or chronic appendicitis may be referred by the patient mainly to the epigastric or other regions, and may cause a flatulent condition simulating dyspepsia, I do not admit that in such cases it is at all as difficult or impossible to diagnose the appendicitis from real gastric trouble as Mr. Moynihan seems to suggest. And I am well aware that such conditions have for long been recognized by most surgeons, and have been given due consideration in the diagnosis of abdominal pains.

But apart from the simulation of dyspepsia by appendicitis, the chief purport of Mr. Moynihan's paper is to contend that a latent appendicitis, which gives rise to no appendix symptoms, can cause all the symptoms of a gastric or duodenal ulcer, including profuse haematemesis; and I am still of the opinion that Mr. Moynihan's published facts are not sufficient to warrant these conclusions, and that his arguments are not convincing.

Take the question of haematemesis by itself for the moment, because it is an objective condition, and can be easily observed. What proof is there that Mr. Moynihan is right in saying of the cases of bleeding from the stomach recorded by Dr. Hale White, "They are suffering from appendicitis"? If it be true, as Mr. Moynihan argues, that the sepsis of a very obscure appendicitis can be the cause of gastric haemorrhage, surely similar bleeding must also be caused by the much more serious sepsis of acute appendicitis, and that in a very appreciable proportion of all such cases. But is it a fact that we do so meet with it? I have never myself seen haematemesis complicating acute appendicitis, and I am not aware that men of the experience of Treves or Kelly have recorded examples of it in the cases observed by them. If it does occur, surgeons and physicians must have noted and recorded it. If it does not occur, what is the explanation of its non-occurrence in acute appendicitis, and its occurrence in latent appendicitis? Or will Mr. Moynihan contend that it does complicate acute appendicitis, although it has not been recorded?

The main facts in Mr. Moynihan's paper which are adduced in support of his contention that an unrecognized appendicitis can simulate all the symptoms of gastric or duodenal ulcers appear to be these: In a certain number of cases he and other medical men have advised an operation upon the stomach, believing that in it or in the duodenum was to be found some cause of the patient's trouble which necessitated an operation on that organ. The operation has revealed that the diagnosis was wrong, so far as any gross lesion of these parts was concerned, and then a further search has resulted in the discovery of an unsound appendix. The removal of this has been followed, for a time not specified, by improvement of the symptoms formerly complained of.

But in order that surgeons in general may be enabled to judge for themselves whether, in their opinion, the conclusion that the appendix was really the cause of the trouble in these cases is correct it is necessary for them to know on how many observations this conclusion is based. We also want to know the complete histories of the patients and the length of time that has elapsed since each was operated upon. And until such detailed information is published I submit that we should not accept Mr. Moynihan's dicta as a basis for advising operations on the appendix when there is no direct evidence to point to the appendix being affected; and, as Mr. Moynihan has himself opened this subject, I think your readers are justified in asking for the facts on which he has based his very far-reaching conclusions.

Finally, may I say that my reason for writing to you at all was to prevent, if possible, the too ready performance of operations on people with chronic dyspepsia, for that seems to me to be the inevitable tendency of the acceptance of Mr. Moynihan's teaching, and of the very wide range of symptoms he refers to a latent appendicitis? As it is, we have all seen patients who have not derived the benefit they anticipated from the removal of the appendix, and a possible addition to their numbers is very undesirable. Mr. Moynihan is also so well known as a skilful surgeon that his advocacy of a certain line of treatment is liable to be widely adopted without waiting for the facts to be published on which it is based.

I must ask Sir Clifford Allbutt and others to pardon me if I refrain from commenting on their interesting communications, as I am unwilling to trespass further upon your space.—I am, etc.,

London, W., Feb. 14th. ANTHONY A. BOWLBY.

SIR,—That sometimes the stomach and duodenum, when examined during life by operation, appear quite healthy, although the patient has had symptoms (even including haematemesis, then called gastrostaxis) which have strongly indicated the existence of an ulcer, has been known for some years.

Further, several observers have known the appendix to be diseased in some of these cases; for example, a woman aged 40, sent to me by Dr. Lewis Reynolds, had had for years the pain and local tenderness characteristic of duodenal ulcer; she had had melaena. An operation showed that the stomach and duodenum were healthy. The appendix, which was chronically inflamed, was removed. But if the diseased appendix was the cause of her duodenal symptoms, they clearly ought never to return, and therefore no conclusion should be drawn for at least five years.

We should be not only slow to conclude that because a diseased appendix is associated with particular symptoms, it is the cause of them, but we should also be cautious in drawing this inference, for other intra-abdominal disease than that of the appendix may be associated with symptoms strongly suggestive of a gastric ulcer. Thus, a man in my wards gave a history—including haematemesis—so indicative of chronic gastric ulcer that the abdomen was opened by Mr. Steward; the stomach, duodenum, and appendix were healthy, but there were nine cicatrizing tuberculous ulcers in the lowest 4 ft. of the ileum.

We know that when symptoms really due to neurotic

dyspepsia have been erroneously attributed to a gastric ulcer, and the patient has been operated upon, often, although he or she is better for a little while after the operation, the symptoms have returned. The same puzzling symptoms may be associated with disease of the appendix; but they can hardly be due to it, for they may return after the appendix is removed. For example, a woman had symptoms of dyspepsia; it was also thought to be probable that the appendix was chronically diseased, and that she was an instance of Professor Ewald's appendicitis larvata or appendix dyspepsia. The appendix was found to be chronically inflamed to a considerable degree; it was removed, but the symptoms of dyspepsia remained. In another case which corresponded exactly to Professor Ewald's description of appendicitis larvata the appendix was removed; for a time the patient was better, but four years after the operation the symptoms were as bad as ever.

One of the first things we have to learn is which are the cases in which permanent benefit is likely to follow excision of the appendix. I know from my own experience that such cases exist, for I have seen several, and one almost exactly like that described by Sir Clifford Allbutt; this patient is still well, although it is fifteen years since a new life was given to her after removal of the appendix. Then, too, one of Professor Ewald's cases described in his original paper was well five years after operation; but, as Mr. Moynihan truly says, much information is necessary.—I am, etc.,

London, W., Feb. 14th. W. HALE WHITE.

SIR,—In connexion with the present discussion, I think the following case is of considerable interest:

H. O., aged 17, an engineer's apprentice, was admitted to the Liverpool Royal Infirmary under my care on January 15th, 1910, complaining of vomiting and of pain in the region of the stomach, symptoms which had lasted with more or less severity for the past two years, and had been attributed to ulcerated stomach. For the past eight months the patient had been worse than before, and had suffered from persistent frontal headache.

On admission he was moderately wasted. On some days he vomited after nearly every meal; the relief to the pain after vomiting was only slight. Food swallowed was often vomited almost immediately, but the vomited matter was acid. No medicinal treatment seemed to restrain the vomiting.

On January 17th he was ordered nutrient enemata, and from January 19th to 26th no food was administered by the mouth. After that, food was given by the mouth, some solid, some milk. Most of the solid food was retained, but the milk was vomited at once. I began to suspect a nervous origin for the vomiting, either functional or cerebral; but the optic discs were normal, and the *x* rays showed that a bismuth meal was retained five hours in the stomach.

On January 29th Mr. Moynihan's remarks on appendix dyspepsia appeared in the JOURNAL, and it occurred to me that my case might be one of this kind. The patient was anxious for an operation, and I asked my colleague, Mr. F. T. Paul, to perform it. We agreed that he should first examine the stomach, and that if it seemed to be normal he should proceed to examine the appendix. This was done on February 4th. An incision was made above the umbilicus, and the stomach was seen to be quite normal. A second incision was made over the appendix, which was removed, and found to be obviously diseased. Mr. Paul informs me that on slitting it up a ring ulcer was found surrounding it about the middle, partly cicatrized, and forming a stricture. The mucous membrane beyond the stricture was inflamed, and covered with a whitish membranous exudation, resembling a diphtheritic exudation. Of course it is too soon to say whether or not the operation has cured the patient, but the fact that the symptoms, which were entirely gastric, led to the discovery of the diseased appendix is in itself highly significant. Under ordinary circumstances, in such a case one of two things would have been done: either the laparotomy wound would have been closed without any further operative proceedings or gastro-enterostomy would have been performed. The fact that on the stomach being found normal it was left alone and the diseased appendix was removed is entirely due to the teaching of Mr. Moynihan in his address published six days before.—I am, etc.,

THOS. R. BRADSHAW, M.D., F.R.C.P.

Liverpool, Feb. 13th.

SIR,—I have read Professor Ewald's letter appearing in last week's JOURNAL, and my attention was arrested by the case he cites of Mrs. D. of Valparaiso. This case has been under my care since 1906, and, so far from the statement that "the complaints never returned" being correct, I feel it my duty to state that she suffers from all her old symptoms—abdominal pain and distension, vomiting and constipation—precisely as she did before the removal of the appendix; and, furthermore, the patient assures me that the operation was not followed by any alleviation of her troubles, which have persisted off and on for ten years. It is unfortunate that Professor Ewald should have selected such a case to illustrate the success of treatment by removal of the appendix.—I am, etc.,

London, S.W., Feb. 16th. EDWARD A. ROBERTS.

OPERATIVE TREATMENT FOR HAEMORRHOIDS.

SIR,—I have been much interested in the correspondence that has recently been taking place in the JOURNAL concerning Whitehead's operation for piles. The question as to which is the best method of operating for piles has, for a long time, been a subject of much controversy, some authorities preferring the clamp and cautery, some Whitehead's method or its modifications, and others the ligature. There can be no doubt that each has its merits in certain cases, and that each, in the hands of skilful surgeons, yields excellent results. There is, however, one point upon which I have long since made up my mind—namely, that the operation by ligature can be relied upon to give uniform good results when efficiently carried out; whereas the same cannot be said of either of the other two methods, both of which are liable to be followed by undesirable sequelae, even when the operators possess undisputed skill.

Personally I prefer the ligature operation, because I know that the after-results of more than 1,800 cases in which I have employed the method have been uniformly satisfactory. In fact, I would go further than this, and say that I am prepared to operate upon any consecutive series of 100 cases of internal piles by that method, and obtain 100 good results. Such uniformity can be obtained by any surgeon who knows how to perform the ligature operation properly, and for this reason the method is undoubtedly the best for the patient.

I think the clamp and cautery operation is a good one, and has some advantages over the ligature, but to it there is attached a percentage of undesirable sequelae, such as anal stenosis, which even the most skilful exponents of the method seem unable to avoid, and therefore, to my mind, this operation is not so reliable as the preceding.

In regard to Whitehead's operation, I agree with Mr. Cripps, who says it is the worst operation ever devised for the cure of haemorrhoids. I say this because I have seen bad results follow the method even when the operation has been performed by very skilful surgeons, and in some instances by those who have had considerable experience of it. Therefore, it appears that this operation is followed by a percentage of bad results beyond the control of the surgeon.

During the sixteen years in which I have been practising rectal surgery, I have seen 37 cases of the bad results following a Whitehead's operation performed by various surgeons in London and the provinces. These were as follows: Anal stenosis in 22 instances, extroversion of mucous membrane in 9, and blind internal fistula in 6. All of these sequelae required an operation for their cure, and, therefore, I contend that any operation for piles is a bad one which, in even a small percentage of cases, may require a secondary operation. On these grounds alone I cannot agree with Mr. Wallis, who states in your issue of February 12th that "the radical operation is the best surgical procedure for the complaint." Nor do I agree with his dictum that, "however well the operation is conducted, the ultimate result will be made or marred by the nursing." Surely a bad result following an operation is due either to the operation itself being bad or to the technique of the operator being faulty.—I am, etc.,

London, W., Feb. 15th. W. ERNEST MILES.

SIR,—I agree entirely with Mr. F. C. Wallis's remarks, with the exception of the quotation with which he prefaces them. My edition of Kipling contains the following version:

> There are nine-and-sixty ways of composing tribal lays,
> And every single one of them is right.

But, with all deference, I do not think there are so many equally good methods of operating for haemorrhoids. I commenced operating by the method of ligature, and by a process of gradual evolution have come to adopt an operation identical with that described by Whitehead. For the last ten years I have "used no other."

I have never seen one case, either in private or hospital practice, in which the ultimate result has been other than completely satisfactory. I have never seen a stricture following it, and I believe, if primary union takes place, stricture is impossible. The only inconvenience has been a slight difficulty in controlling the evacuations, which has never lasted for more than two or three weeks. The operation takes very little time—twenty minutes on an average—and is attended by very little haemorrhage. It has also, so far as my experience goes, been followed by far less pain than the operation by ligature. Generally patients are quite comfortable after the first twenty-four hours.

A recurrence of haemorrhoids is, of course, impossible, and I have never heard a patient regret having submitted to the operation.—I am, etc.,

HERBERT H. BROWN, M.D.Lond., F.R.C.S.

Ipswich, Feb. 14th.

SIR,—Mr. F. C. Wallis's letter (February 12th, p. 415) is admirable as a piece of special pleading, but as a serious argument in favour of Whitehead's operation is hardly convincing. He says: "It is wrong . . . to say any operation is a bad one on account of the failures which may come to one's notice." This seems to me an extraordinary statement. Surely it is only by carefully observing the results of an operation that it is possible to judge of its value or otherwise; it is the one and only test. Many operations that on the operating table have appeared brilliant successes have been subsequently abandoned because the ultimate results were disappointing.

I never denied that excellent results can be obtained by Whitehead's operation in the treatment of piles when it is performed by a skilled operator; but I stated in my letter that recurrence—by which I mean return of the symptoms necessitating a further operation—not only occurs after Whitehead's operation, but is more frequent than after the operation by ligature.

Mr. Wallis evidently agrees with Mr. Richardson in considering that Whitehead's operation, or some modification of it, is the only radical one for piles. But surely this is a misuse of the word. In a surgical sense we generally mean by a radical operation one which removes the cause of the symptoms; in this case the piles. Any operation, therefore, is radical in which all the piles are removed; a radical cure for hernia is none the less radical because the intestines are not removed.

With regard to the removal of the sensitive area of the rectal orifice, it is, of course, obvious that, as a rule, sensation returns after Whitehead's operation, or otherwise the operation would never have been heard of. My point was, that in a certain small percentage of cases it does not return.

Mr. Wallis seems to object to Mr. Cripps and myself criticizing Whitehead's operation on the ground that we have not performed it. But one does not form an opinion as to the value of an operation from one's experience in performing it so much as from the results. While I have seen quite a number of very bad results from this operation, I have seen none after the operation by ligature.

The weakest part of Mr. Wallis's argument is in the end of his letter. He points out that very skilled nursing is necessary to secure good results after Whitehead's operation. Now, skilled nursing is an advantage after any operation, but it is *not* a necessity after the operation by ligature. He seems to admit that Whitehead's operation is liable to go wrong, unless very great care is taken.—I am, etc,

London, W., Feb. 15th. P. LOCKHART MUMMERY.

CONSULTANT, GENERAL PRACTITIONER, OR HALF-AND-HALF?

SIR,—In these days, when keen competition is driving many a general practitioner to great straits, and, only too often, to extinction, it behoves us to look around and see if we cannot find remedies for this condition of affairs.

In the first place, I presume no one will gainsay that the management of the out-patient departments of our hospitals is largely to blame. Cases are treated in those departments which could afford to be dealt with by the general practitioner in the ordinary way, and nearly all could be so dealt with if the people had the opportunity, and, by means of refusal to be attended in the out-patient departments, were compelled to join provident dispensaries; such as could not afford attendance even by that method would naturally come under the Poor Law. The out-patient departments of our hospitals should be made free consulting centres.

The point, however, to which I particularly wish to draw attention in this letter is indicated by my heading. Are not the so-called consultants of to-day acting very largely as general practitioners; in other words, seeing patients not in consultation with another medical man, but "on their own"?

I take it that a consultant should be a practitioner who *only* sees patients in conjunction with another practitioner. How many so-called consultants act up to that definition in the present day? I wot not many.

If the so-called consultant answers, that if he confined his work to that exclusive practice he could not earn a sufficient income, and that the day for such exclusiveness is past, then let him say so straightforwardly and honestly, and admit that he practises half as a consultant and half as a general practitioner. The general practitioners then would choose their consultants with greater care, and avoid those men who robbed them of their patients, and by such robbery also drew from them the connexion that might follow from such patients. The time for plain speaking on this matter has come, and I venture to say there are few general practitioners in this country who have not had patients taken from them by so-called consultants.

Another argument the so-called consultants might bring forward is that it is not fair to the general public that they should be denied their apparent right of consulting independently whom they wished. This is only a fictitious right, and the general public would in no way suffer if consultants were really consultants, and their treatment was carried out by general practitioners. The barrister cannot be approached except through the solicitor. Why should there be access to the medical consultant except in conjunction with the general practitioner? I feel sure it would add to the dignity of our profession if such a procedure were always adopted.

Another reason why so called consultants have ceased to be real consultants is because of late years specialism has run mad. We have specialisms within specialisms—a man, metaphorically speaking, can attend to the big toe, but he cannot attend to the little one. The result of this over-specialism is that you have very many practising as specialists who have no right to the title other than in their own imagination, and so gull the public and rob the general practitioner, whilst at the same time they bring an honourable profession into discredit.

The fact is, so-called consultants are too numerous; and, on the other hand, general practitioners are more capable than they were, and do not need the number of consultations that possibly were needed in the past, when teaching had not been brought to the fine art that it has to-day.

What good is man if he be not practical? Where, then, is the remedy?

Surely, in the first place, that our two Royal Colleges should see to it that their Fellows who profess to be consultants should really be what they pretend to be.

Secondly, that our hospitals should take care, for their own credit, that the members of their staffs should be consultants truly, and not in practice general practitioners.

Lastly, the general practitioners themselves should choose their consultants with greater care, and not recognize so-called consultants who are seeing patients, save than in conjunction with another practitioner.

Sir, I have no axe to grind. I am sufficiently old and

sufficiently successful to prevent these matters affecting me, but I love my profession, and I desire to see it continue in that honourable position it has held in the past, and of which some present-day methods are tending to rob it.

In conclusion, I refrain from signing my name to this communication, not because I am ashamed of anything I have written, but because, should this letter call forth further communications, all personalities should be avoided and the matter discussed on its merits.—I am, etc.,

February 14th. ENQUIRER.

GENERAL PRACTITIONERS AND POOR LAW REFORM.

SIR,—At a largely attended and highly representative meeting of medical men of Manchester and district assembled to hear an address from the Medical Secretary, Dr. J. Smith Whitaker, on the medical aspects of the Report of the Poor Law Commission, the following resolution was proposed:

> That, in the opinion of this meeting of medical practitioners of Manchester and Salford and district, no reform of the Poor Law Medical Service can be effective without concomitant reform of provident and charitable medical agencies; that no medical service under a Sickness and Invalidity Insurance Act will be satisfactory to the medical profession that is worked on the lines at present adopted by many of the great friendly societies; that, inasmuch as the late Royal Commission on the Poor Laws was not fully equipped for dealing with the details and intimate relations between provident agencies, charitable hospitals, and any public medical service, this meeting calls on the Government to appoint a Departmental Committee, on which the medical profession should be properly represented, to fully consider these matters before legislation is undertaken.

Time did not permit a sufficient discussion, so the meeting was adjourned, and the resolution is to be further considered and voted upon.

It seems to me, however, that the resolution is of such great importance to us all that it should be forthwith placed before all members of the Association, and indeed, of the profession.

Possibly with regard to the first part of the resolution some differences of opinion may arise, but with regard to the second and third parts, I take it most practitioners must approve. A general extension of the pernicious sweating system of cheap contract practice of semi-philanthropic character, such as appears to be contemplated by some "reformers," can hardly be too strongly condemned and resisted by medical men, both in the interests of themselves and their patients. On the other hand, the extension of the present Poor Law medical officerships, to become whole-time officials, and to take over practically all the working-class practice of this country, can surely hardly be faced with equanimity by the most apathetic of general practitioners. One frequently hears it stated that the working class forms the backbone of general practice, and certainly practice would become very *in*vertebrate without this class to most of us, except in a few fashionable residential neighbourhoods.

According to the recommendations of the Poor Law Commission's Majority and Minority Reports, therefore, we are to be cast on Scylla or Charybdis. Is there no safe channel between? I think there is, and that it lies in a system of State-aided medical insurance which would cover every worker for every kind of sickness and accident to which he might be liable, providing all the costs of medical attendance and nursing, and even maintenance of the family, during the period of incapacity. The doctors' fees should be paid by the insurance department direct, and should not be less than the recognized scale of fees at present in vogue—namely, a minimum of 2s. 6d. a visit for an ordinary visit. What a blessing it would be if all medical practice could be paid for in this way—that is, not by the patient, but by an independent insurance department! although, of course, for higher-class patients and in special cases special fees would be charged. If a proper system of medical assurance, under the State, were once inaugurated, there is no reason why every one should not join. It would be a huge mutual benefit scheme, but, of course, those who could not afford to pay their full share of the premiums would have to be assisted by the State.

All patients would, as at present, choose their own medical attendants, and the latter would always be sure of remuneration, and there would be no friction between doctors and patients about bills, etc. Certain safeguards and limitations would no doubt be thought necessary to prevent abuse of such a scheme, but these need not interfere seriously with its proper working; and I foresee that its adoption would promote the best interests both of the profession and the community.—I am, etc,

Bowdon, Feb. 15th. P. R. COOPER.

SIR,—While agreeing with Dr. Flemming that the chief desideratum of our profession is independence, and that this is equally necessary for the welfare of the public and the practitioner, I must dissent from his views as to how this independence is to be maintained. The very essential of the Public Medical Service recommended by the British Medical Association is that such service must be entirely under the control of the profession. Is there the remotest likelihood of a National Public Medical Service being placed under such control? He says "this service would be practically a great club." Personally, I cannot but view with the greatest apprehension any increase of the present club system with no better control on the part of the profession than at present exists. I am also at issue with Dr. Flemming as to the acceptance of pauper patients on the same terms as other patients in any provident dispensary scheme. Such an arrangement would be most inequitable, as the responsibility connected with the medical care of the destitute is far greater than in other kinds of medical practice. If Dr. Flemming has had any experience in the contract practice connected with benefit societies, I am surprised at his eulogium of the "sheet" inspected by club visitors. Such sheets can never give even an approximate idea of the work done by the club doctor, and they were never intended to. Their object was to show that the sick member was periodically seen by the doctor, so as to prevent imposition on the sick funds of the society, and I doubt whether they are of much value even for that purpose. The present Poor Law Medical Register is infinitely superior to these sheets, as affording a means of checking the work done by the Poor Law medical officer. With regard to Dr. Flemming's arguments in favour of a choice of doctors for pauper patients, with all respect to him, I am compelled to acknowledge that the arguments of the Minority Commissioners against such a choice are far more logical and convincing to my mind.

Before concluding, I should like to draw attention to Dr. Taylor's letter (p. 417). In my opinion it is an admirable letter, and I hope it will be carefully read and considered by all your readers. It shows in the clearest possible manner the imminent danger threatening our profession, and the necessity of union among all general practitioners to protect themselves against by no means imaginary dangers. The present attack upon part-timers imperils all general practitioners. After all, any of their posts are open to every practitioner, and if they cannot be held by all at the same time, they are continually becoming vacant, and passing from one practitioner to another. Many of the proposed schemes tend to take all of them away from the practising profession, and in so doing seriously jeopardize the private practice that remains.—I am, etc.,

MAJOR GREENWOOD,
Honorary Secretary, Poor-Law Medical Officers' Association of England and Wales.

London, E.C., Feb. 12th.

PART-TIME MEDICAL OFFICERS OF HEALTH.

SIR,—Dr. Arthur E. Larking (page 352) makes some sweeping allegations against the large body (over 1,100) of part-time medical officers of health as a whole. It would be interesting to know by what standard he judges them. He has been one himself, and seems to have had some unpleasant experience, both as medical officer of health and general practitioner.

It would also be interesting to know how many medical officers of health make a practice of visiting the patients who are notified as suffering with an infectious disease, except in consultation, and also how many are in the habit of telling their sanitary authority about such cases.

Is it not the usual mode of procedure for the medical officer of health to make inquiries, but *not* to see the

patient, except in consultation, and to report to his sanitary authority at the usual meetings that such and such a number of cases have been notified? Personally, I should not dream of telling my sanitary authority the names of such patients, and I am sure they would never think of asking me.

Regarding the fifth paragraph of Dr. Larking's letter, we all know that any man in a public position is generally pretty carefully watched and his doings noted.

There is often too much idle talk about doing this or that for the good of the public. We part-time medical officers of health are dubbed inefficient, careless, open to influence, etc., by some of our professional brethren; do they do it entirely from a desire to benefit the public, or is it sometimes a case of "dog in the manger"?

As medical officers of health must of necessity be greatly in the minority in any mixed medical association, it is quite easy to pass a resolution affecting them, whether they approve or not; nevertheless, as one of the 1,100 part-timers, I beg to express the opinion that no society has the right to make a rule that will deprive many of their members of a part of their livelihood, provided the work done is of an honourable character.

We hope such will not be the case, but should it come to this—that we have to choose between the British Medical Association and our appointments—many of us would have no choice in the matter. We could not afford it,—I am, etc.,

EDWD. G. GIBBS-SMITH,
February 8th. M.O.H., Teddington.

SIR,—There has been a tendency in some of the letters that have appeared in your correspondence columns to use rather strong language. I therefore, in my letter on the above subject, tried to make it as impersonal as possible. Having spent twenty-five years in practice in different places, and having had personal experience of every one of the points dealt with in my letter, I do not approach the subject in a spirit of prejudice at all. I can give instances of every one of the objections to part-time medical officers of health referred to. There is no prejudice about it.

My opinion has been formed from the observation of actual occurrences, common in the practices of every general practitioner where there is a part-time medical officer of health. They are not assertions totally unsupported by evidence, but are everyday occurrences, so common that the vast majority of the members of our Association are of a similar opinion to myself, and have decided against the part-time medical officer of health. It is not a question of "selling their souls" that leads part-time medical officers of health to accept salaries of £20 a year. It is because they know that they are only wanted to do £20 worth of work! Surely this is not for the public welfare?

The letter of Dr. H E. Gough shows a spirit that I will not try to imitate. He has evidently been very remiss in his attendance at his Division meetings, and has not realized that the British Medical Association does not desire to act inimically to any member of our profession, and is only striving by discussion and friendly intercourse to arrive at a solution of many difficult problems. It is those members who absent themselves from meetings of which they have been given due notice who are now crying out that their interests have been neglected. Whose fault is it, and whom have they to blame for it? Only themselves and their own negligence and want of co-operation with their medical brethren. A regular attendance and a little more converse with his colleagues in the same neighbourhood would convince him that it is not by accusing other medical men of a want of justice, want of consideration for other persons' rights, opinions, and feelings, etc, that a correct decision can be arrived at. Surely Dr. Gough does not imagine that it is the wish of our British Medical Association to deprive any medical man of any appointment with which he himself is satisfied and which he wishes to continue to hold? Nothing of the kind. All that has been done is to express the opinion that the principle of whole-timers for public health work is the one the Association favours. If dissentients bring the matter before their Division it is quite competent to modify this declaration of policy at the next Representative Meeting. But I am confident that if Dr. Gough brings the matter before his Division he will find that his opinion is not that of his brother practitioners, especially if he adopts the same arguments and style as in his letter.

Another objection to part-time medical officers of health is that the work that has to be done is so totally different from ordinary general practice as to need special training and knowledge, and therefore deserves special pay and privileges. What does the ordinary general practitioner know about water analysis, the various kinds of traps, sewage disposal, house construction, water supplies, vital statistics, and suchlike? How many part-time medical officers of health possess the D.P.H.?

I am entirely averse to the suggestion of whole-time district medical officers in connexion with the Poor Law, as this work is a part of general practice; but whole-time medical officers of health are specialists, and their work is nothing akin to general practice.

I agree that it is a pity general practitioners are losing their phthisis cases, their midwifery cases, and that efforts are being made to appoint special whole-time officers for medical treatment of school children; but surely Dr. Gough will acknowledge that it is for the benefit of the public to control phthisis, and that whole-timers, if they have "engineered" this, have done the right thing.

The Midwives Act would not have passed and our midwifery cases would not have been so much curtailed had our Association been alive then as it is to-day. Then it was only the voice of Dr. Rentoul that was raised against the Act and who saw what it would lead to. Whole-time medical officers of health had no connexion with the question whatever!

Who are trying as hard as they can to secure the appointment of general practitioners to treat defective school children? The members of our Association. Immense labour has been entailed and large sums of money have been expended by the Association over this question, as Dr. Gough ought to know had he attended the Division, Branch, and Annual Meetings as he might have done.

These facts prove that the Association is trying to protect the interests of its members and to secure the best results. Dr. Gough may rest assured that the interests of all our members, whether part-time medical officers of health or not, will be jealously and impartially safeguarded.—I am, etc.,

Buckingham, Feb. 15th. ARTHUR E. LARKING.

THE MEDICAL PROFESSION IN INDIA.

SIR,—Your correspondent is disposed to challenge the statement that there is real need for a radical change in the medical service of India, and to look upon criticism directed to that purpose as part of a policy of recent growth mainly designed in "the interests of a political coterie in Bombay actuated by motives of hostility towards the European element in the Indian public services." But this agitation has been going on for about twenty-five years, and the demand for reform has come from the Government of India, local governments of Madras and Bengal, from Lord Wolseley, the late Sir Donald Stewart, the late Dr. Bahadurji, and others, on the grounds of efficiency, economy, and justice to all concerned. Your correspondent fails to see with sufficient clearness the existence at present of a large body of capable medical men trained in European and Indian schools of medicine, outside the Indian Medical Service, chafing under the restraints of a system which practically closes to them the higher grades of the medical service by reserving them for officers of the I.M.S. It is true that the I.M.S. is open to Indians who are below the age of 28 years and are able to come to London for the Competitive Examination. Actual experience, however, shows that very few can do so, owing to the cost, risk, and inconvenience which it entails. Consequently, large numbers can serve their country only in the subordinate ranks, without any hope of rising in the service. It is therefore the duty of the Secretary of State to devise a scheme which will bring the coveted posts within reasonably easy reach of all capable Indians, and thus remove a grave injustice. To this effect suggestions have been made in the memorial of the Bombay Medical Union, without importing into it personal or racial hostility. Under the

existing system, the higher ranks in the civil medical department are manned by military officers lent to the civil branch till their services are required for war purposes. This means that the civil institutions, as colleges, hospitals, sanitary and chemical departments, exist not for the cultivation of medical science and for the promotion of human happiness, but primarily as war reserves. It follows also that they are to be closed when India is engaged in a war. This war reserve, however, exists, as experience has shown, only on paper, and not in reality, as it is not possible to withdraw these officers from these institutions in time of war.

Again, the present method of filling all the important and responsible posts with officers of the Indian Medical Service only leads to appointments being made on the basis of service qualifications. The fact of their holding special posts is afterwards held to prove that they are experts. This is begging the question. Experts need especial capacity and long training, and cannot be made by Government resolutions as vacancies occur—for example, in answer to a question by Mr. Kettle, M.P., on May 26th, 1909, the Under Secretary of State said that an army doctor who has been surgeon on the personal staff of the Governor of Madras for about ten years was straight away appointed a professor in the Presidency Medical College. He teaches medical jurisprudence to university students, and is then converted into a Professor of Surgery. After scarcely two or three years of this experience he becomes principal of the college and a Syndic member, and thus the ruling authority upon medical matters in the University of Madras.

Let me finally say that in the arts, law, and engineering colleges Western education is given as in the medical schools, and the highest appointments in them are open to students of these institutions. The professors of these colleges are selected from the graduates of European and Indian universities, and when capable and competent Indians are found they are appointed to those places. Why is this practice not followed in the medical faculty?—I am, etc.,

London, S.W., Feb. 7th. V. P. GONSALVES.

BACTERIA AND DISEASE.

SIR,—I do not think the letter of Dr. John Priestley in the JOURNAL of January 29th, p. 293, under the somewhat curious misnomer, "The Pathology of Bacteria," should pass without comment. It is evident from the tone of his letter that, although not entirely dissociating micro-organisms from disease, he would cast very grave doubts on their causal relationship.

It is perfectly clear to the majority of us who are not given to "furiously thinking," that in the so-called infective diseases there are at least two primary factors: (1) The presence of the specific germ; (2) the susceptibility of the "being" attacked. Dr. Priestley seems to have entirely overlooked this second factor, which, after all, is the most important. Has he never heard of the terms "natural immunity," "insusceptibility," or "invulnerability," as applied to infective disease? Hewlett says that no fact in biology is more striking than the differences in susceptibility to disease conditions exhibited by different races, individuals of the same race, or even at different ages or under different conditions in the same individual, and this is generally recognized.

Every one knows that we are all exposed more or less to the tubercle bacillus and other germs, but only some special vulnerability determines the corresponding disease.

The difficulties of cultivating some micro-organisms and the ease with which others are inhibited alone enable us to surmise what an extremely delicate question immunity must be, and upon what slender conditions it depends. Hence the existence of healthy "carrier" cases of the germs of diphtheria, typhoid, and pneumonia. With regard to the facts mentioned by Dr. Priestley, I think they can all find a natural explanation in terms of either immunity or non-infection, without seriously damaging the case for bacteriology. The small boy mentioned by Dr. Lloyd may have had an acute follicular tonsillitis or other septic condition, while the elder boy was a healthy "carrier" of the diphtheria bacillus, of which there were probably several others at his school.

With regard to the carrier problem, Dr. Vincent's paper speaks for itself.

Again, the low mortality of women in childbed in the East End of London does not lend any support to Dr. Priestley's case against bacteria. Five and a half years' charge of a Poor Law maternity ward in one of the poorest districts in London has sufficed to convince me that the state of filth or of clothing in which a woman is confined bears no relation to sepsis provided no examining hand is allowed to touch these garments or the skin in its introduction. I have had women confined in cabs before entrance, and some have been confined immediately on entrance, and had to be screened off there and then in the grounds; others within a few minutes of reaching the ward, without time to change their filthy garments or be cleansed in any way; yet these cases invariably had a normal puerperium, contrary to what one might have expected. Similar experiences could doubtless be multiplied.

Such cases run no risk of infection, but, with regard to abnormal cases requiring internal manipulation, such as removal of placenta, etc., I am convinced—and here I am voicing the opinion of many—that in midwifery the most scrupulously conscientious regard for asepsis and antisepsis is the only way, and any attitude of relaxation from these rigid principles should be severely condemned. The facts which Dr. Priestley sets forth do not make us doubt for a moment the part played by bacteria in disease, and, if they are worth thinking about at all, are worth thinking about correctly.—I am, etc.,

London, E., Jan, 29th. F. B. SKERRETT.

SIR,—It appears to me that Dr. Priestley has placed bacteria in such an exalted position that he has, for the moment, forgotten the soil upon which they grow—the patient. It is common knowledge that diphtheria bacilli exist in normal throats, and that no symptoms arise from their presence there; but if a person with diphtheria bacilli present develops tonsillitis, then we have present the conditions necessary for the growth of the organism, that is, lowered resistance on the part of the tissues, and the organisms hitherto harmless and inactive become harmful and active. We are all agreed that a diphtherial or pseudo-diphtheritic throat cannot exist. A patient has either diphtheria or he has not diphtheria. There is no half-way condition. The relationship which exists between organisms and disease is that of cause and effect. With regard to Dr. Laetitia Andrew Bird's record, it is necessary that we have much fuller details before we could venture to offer an opinion. We must know whether there was any trauma inflicted during any of the labours. Then we must know whether in these cases the temperature was systematically recorded, as many slight cases of sepsis doubtless escape our notice through inattention to this point. Many other points must be considered before we can express any surprise at the figures. It may interest Dr. Priestley to know that it has been proved that typhoid bacilli vegetate in the gall bladders of patients who have been attacked by this disease. The gall bladder intermittently contracts and ejects them into the intestine. Therefore, although these patients have no symptoms of typhoid, yet they are capable of transmitting the disease to any susceptible person with whom they may come in contact. Such persons are known as typhoid carriers.—I am, etc.,

Bedford, Jan. 31st. S. J. Ross.

PSYCHICAL RESEARCH.

SIR,—Dealing with the investigation of "unusual mental phenomena," the distinguished ex-president of the Psychical Research Society has recently expressed his opinion of medical practitioners in the following terms: "As I understand a doctor's business, it is to cure an abnormality if he can . . . not to investigate it. True, a doctor may be a scientific man in addition, but *qua* physician he is out of his element as a general investigator, and as a leading practitioner he has very little spare time. Were it not so, the record against the profession . . . would be not only pitiful, as it is, but essentially disgraceful."[1]

Such an interpretation of our business, as it appears to me, would with equal force exclude us from other fields of investigation hitherto regarded as legitimate. Whether it

[1] *The Survival of Man.* By Sir Oliver Lodge, F.R.S. 1909. Methuen and Co. P. 153.

be intended to thus ostracize all members of the profession from the select company of scientific workers is not perfectly clear. But it is quite clear to me as a general practitioner that under this new régime the lot of the poor general practitioner is to be worse than ever. Up to now he has been urged carefully to investigate natural processes even by those who—not without a spice of self-interest, perhaps—advise him to refrain from doing anything else of any great importance! I think it was Lucretius who, with profound insight, remarked:

Felix qui potuit rerum cognoscere causas.

But the general practitioner, poor man, is now to be deprived of all chance of happiness as indicated by the poet. If he may not investigate, it stands to reason that he has but a small chance of grasping the significance of things and therein finding pure joy, unalloyed by filthy lucre and other mundane considerations.

But, seriously, I suggest that it is because all members of the profession are or ought to be investigators every day, and because it happens to many of them to see natural phenomena direct, and not through other people's spectacles, that the practice of medicine is not the veriest drudgery, but, on the contrary, the most attractive, perhaps, and the most stimulating of the learned professions. It is probably from the same reason that medical men are "characteristically sceptical";[2] they know by hard experience how easy it is to go wrong, and how hard it often is to get right. Many of them know, too, by experience the fascination which results from a first glimpse of a new truth. They know that he who thus sees may wander "blinded by excess of light" from the narrow road of sound deduction into the bypaths of perfervid imagination. Such things happen to medical men, possibly also to members of the Psychical Research Society.

But however that may be, it is seriously suggested by the ex-president of the Psychical Research Society that certain deceased members have been endeavouring to communicate with the society since their death; that they are offering evidence of identity, and that this evidence is "beginning to be crucial."[3] I fancy it will be wiser for medical men to await the publication of this most interesting and (if crucial) epoch-making evidence, before expressing any opinion upon these very occult phenomena. But, in the meantime, I suggest that the question of *telepathy* is ripe for serious discussion.

I may say *en passant* that I have no practical knowledge of such matters; what very limited knowledge I possess has been derived entirely from "book work." But it is evident even to a tiro that if telepathy is to be seriously discussed it must be carefully defined. Public or semi-public exhibitions of such phenomena prejudice thinking men and are out of court. Such experiments as might be explained by "the hypothesis of unconscious sensibility to involuntary muscular action" are also excluded.

If telepathy be defined as the transference of mental impressions from one individual to another without the ordinary intervention of sense organs, it may serve for all practical purposes, though it is open to the theoretical objection that there may be ordinarily and normally X Y Z waves hitherto unsuspected acting upon sense organs, and which, under favourable conditions, in some individuals produce astonishing results.

Of course, experiments for the purpose of elucidating such a point would require to be controlled and conducted by observers of position and eminence whose bona fides would be above suspicion. It seems te me that these conditions are fulfilled in some of the experiments recorded by Sir Oliver Lodge; and that therefore the subject is ripe for discussion and further investigation. If such "thought transference" be a fact, it would appear to be not merely a startling but an important fact. I have not been able to obtain any information *pro* or *con* from any of the standard textbooks on physiology which I have consulted so far.

I suggest, however, that unless we are prepared to relegate the investigation of such alleged brain function to distinguished amateurs, the Association might without impropriety do something towards a definite solution of this question. If it served no other purpose, it might at least enable us to bring a more educated judgement to bear upon the astounding evidence of *post mortem* telepathy foreshadowed by the well-known authority already referred to, and which will doubtless be awaited with some curiosity by many of your readers.—I am, etc.,

Manchester. J. STAVELEY DICK, M.B. (R.U.I.).

[2] Loc. cit., p. 215.
[3] Loc. cit., p. 334.

THE TREATMENT OF NEURASTHENIA AND PSYCHASTHENIA.

SIR,—At the conclusion of his remarkably instructive Purvis Oration before the West Kent Medico-Chirurgical Society (reported in your issue of January 22nd), Dr. Herman very definitely limited the use of suggestion in the treatment of certain functional neuroses by stating that—

> In cases of pelvic pain it is most important . . . to distinguish between that which is hysterical and curable by suggestion; that due to neurasthenia, curable by rest and sleep; that due to psychasthenia, benefited by rest and sleep, but not curable by anything; and that due to local disease, to be cured by local treatment.

But I think that those who are familiar with the routine use of suggestive therapeutics will agree with me that such limitation overlooks to a very great extent the usefulness of suggestion in functional neuroses other than hysteria.

In the treatment of neurasthenia, whilst rest and sleep are admittedly of the greatest value in recuperating the exhausted nervous system, they are, alone, surely incapable of curing the great majority of neurasthenics; for in neurasthenia there are as a rule mental and toxaemic factors which cannot be controlled by rest and sleep.

With regard to the mental factor it must be remembered that, apart from the fact that mental strain is directly responsible for many cases of neurasthenia, almost every neurasthenic in time develops a number of subjective symptoms which will yield to no form of treatment in which suggestion does not play an important part. It is obviously as important that we should treat the psychic factor by suggestion, and the toxaemic factor by appropriate means, as that we should seek to remedy the exhaustion present by rest and sleep.

I fully agree that neurasthenia is "curable" under circumstances which duly allow for these points; and the local and toxic causes of the condition having been removed, it will, I think, always be found that in neurasthenia a combination of rest, sleep, and suggestion can be relied upon to bring about recovery.

Dr. Herman further emphasized the important distinction between neurasthenia and psychasthenia (the latter being understood to be a congenital condition characterized by fixed ideas, obsessions, and phobias), and, whilst again laying stress on the importance of rest and sleep in the treatment of psychasthenics, seemed to infer that suggestion has here no place. I can only say that I have personally found suggestion to be a most important factor in the successful treatment of psychasthenia. I admit that this condition is actually "incurable," but, on the other hand, know that it is quite possible, with the aid of suggestion, to give such mental support and self-confidence to psychasthenic persons as to enable them to live their lives in comfort, and under such conditions that they are for all the practical purposes of life "cured" for long periods.

I think that the chief factors in the treatment of the very common functional nervous disorders referred to by Dr. Herman may very well be summarized as follows: *Hysteria*, curable by suggestion; *neurasthenia* (after removal of primary cause) is curable by rest, sleep, and suggestion combined; *psychasthenia*, though incurable, may be benefited by rest and sleep, but still more by suggestion.—I am, etc.,

London, W., Feb. 5th. EDWIN ASH, M.D.Lond.

NORMAL PERISTALSIS OF THE COLON.

SIR,—In the Epitome of Current Medical Literature in the JOURNAL of February 12th it is stated that Holzknecht, in a paper published on November 23rd, 1909, has "opened up the chapter" on the mode in which faeces are propelled along the colon by his observations on human beings with the *x* rays. This is a curious statement to make in view of the large amount of work on the subject which has

been done during the last three years in England. A paper was, in fact, published in the BRITISH MEDICAL JOURNAL just two years ago, in which the results obtained up to that time in our study of the movements of the human alimentary canal by the *x* rays and other methods were fully described.

In all our observations, including a few in which hourly examinations were made throughout the day, we have invariably found that the faeces move very slowly along the colon at an almost uniform speed, except during meals, when the advance is considerably more rapid. We have never observed anything like the sudden forward movements described by Holzknecht, except in a case of obstruction due to cancer of the pelvic colon, where an exactly similar phenomenon was seen to occur with each spasm of pain.

In the diagrams, with which Holzknecht's original paper is illustrated, the ascending colon and descending colon are represented as being visible, but the transverse colon invisible, after the occurrence of the sudden peristaltic wave. But such an appearance is quite abnormal, a continuous shadow of the colon being almost always present, the only change from hour to hour being the gradual appearance of more and more of the peripheral part of the colon. Only after defaecation has occurred is the shadow occasionally separated into two parts, a faint caecal shadow being then sometimes visible simultaneously with a faint shadow in the neighbourhood of the splenic flexure. Holzknecht has only seen the movement in two out of a thousand individuals, yet he actually describes it as the "normal peristalsis of the colon." This corresponds to his equally unjustifiable assumption that the form of stomach which he considers is the one best adapted to perform its duties is alone normal, although he admits that it is very rarely seen in healthy individuals—a statement which our observations and those of many others entirely confirm.—I am, etc.,

London, W., Feb. 14th. ARTHUR F. HERTZ.

The Services.

ROYAL NAVY MEDICAL SERVICE.

EXAMINATION FOR COMMISSIONS.

FIFTEEN commissions will be granted at the next examination of candidates for the Royal Navy Medical Services, which will be held at the Examination Hall, Thames Embankment, on May 2nd and the following days. The regulations for entry and the form to be filled up by candidates can be obtained on application to the Medical Director-General, Admiralty, 18, Victoria Street, S.W.

R.A.M.C. (TERRITORIAL).

FIRST WESTERN GENERAL HOSPITAL: WEST LANCASHIRE DIVISION.

THE annual dinner and concert of the personnel of the General Hospital took place in Liverpool on Thursday, February 10th, Lieutenant-Colonel Nathan Raw, M.D., Officer Commanding, in the chair. There were present: Colonel Richard Caton, Colonel Damer Harrison, Lieutenant-Colonels Rushton Parker and T. R. Glynn, Major Burns Gemmell (Registrar), Mr. Naldrett (Quartermaster), Lieutenant-Colonel Knowles, Officer Commanding 1st Field Ambulance, Lieutenant-Colonel Dawson, Officer Commanding 2nd Field Ambulance, Lieutenant-Colonel Jackson, Officer Commanding 3rd Field Ambulance, Major Barrow, R.A.M.C., Major Smart, Captain Evans, Major Stevenson, and many other officers in addition. Miss Glover, the principal matron, Miss Purves and Miss Oates (matrons), together with 81 sisters and nurses attached to the hospital, were present, the total company present being 176. After loyal toasts had been proposed, the Commanding Officer reported that the hospital was recruited in all departments up to full strength—namely, 31 physicians and surgeons, 120 nurses, and 47 non-commissioned officers and men.

The fact of so many nurses being present in uniform gave a great charm and grace to the proceedings, and it is worthy of note that it is the first occasion in which hospital nurses have taken part in an official military function in Liverpool.

PAY IN CAMP.

DR. REGINALD SLEMAN, Lieutenant-Colonel, R.A.M.C.(T) (London), writes: With reference to the statement contained on page 299 of the JOURNAL of January 29th, I should like to point out that the pay and allowances of a Major, R.A.M.C (T.), are governed by the special Army Order, "Scheme for the Transfer," of March 18th, 1908, page 51. There is no increased rate or allowance after three years' service as Major. The rates given in the Royal Warrant for Pay and Promotion are for regulars, and would only apply to the Territorial Force on mobilization.

Universities and Colleges.

UNIVERSITY OF OXFORD.

NOTICE has been given that an examination for the diploma in Ophthalmology will commence on Tuesday, July 19th. Information concerning it can be obtained on application to the Assistant Registrar, University Registry, Old Clarendon Building.

The Faculty of Medicine.

The following have been elected to the Board of the Faculty of Medicine: J. R. Magrath, D.D., Provost of Queen's College; F. A. Dixey, D.M., Fellow of Wadham College; A. L. Ormerod, D.M., New College; A. P. Dodds Parker, B.M., Magdalen College; W. Bruce Clarke, B.M., Pembroke College.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A MEETING of the Senate was held on January 26th.

Board of the Faculty of Medicine.

It was resolved that the following scheme for the constitution of a Board of the Faculty of Medicine be approved:

I. The Board shall consist of:

(*a*) The Dean of the Faculty, who shall be *ex officio* Chairman of the Board.

(*b*) The Secretary of the Faculty, being a member of the Faculty.

(*c*) All members of the Faculty who are also members of the Senate.

(*d*) The Chairman, being a member of the Faculty, of the Board of Studies, in each of the following subjects: Preliminary medical studies, intermediate medical studies, advanced medical studies, dentistry, pharmacy (when constituted), hygiene and public health, physiology and experimental psychology, human anatomy and morphology.

(*e*) Representatives, to the number indicated in each, of the following Boards of Studies, to be appointed from the members of the Faculty by the Faculty on the nomination of the appropriate board: Preliminary medical studies, 2; intermediate medical studies, 2; advanced medical studies, 4.

(*f*) Any other member or members of the Faculty (not exceeding six in all) whom the Faculty may appoint, in each case after nomination by at least two members of the Faculty.

II. The Board shall be appointed annually by the Faculty as soon as possible after receiving the reports of the Board of Studies made at their first meeting in each year.

III. No quorum shall be required for a meeting of the Board.

IV. The Board may appoint an honorary secretary.

V. The Board shall report to the Faculty.

Personnel of the Senate.

In accordance with the terms of the statutes made by the King's College, London (Transfer) Commissioners, Dr. Thomas Buzzard, F.R.C.P., has been co-opted to be the representative of the college on the Senate for the remainder of the period 1907–11.

Appointment of Representatives.

Professor H. R. Kenwood has been appointed, in respect of University College, the representative of the university at the Royal Sanitary Institute Congress at Brighton in September, 1910, and at the International Congress on School Hygiene at Paris in August, 1910. Professor W. J. R. Simpson, C.M.G., has also been appointed a representative of the university at the Royal Sanitary Institute Congress.

Chadwick Lecturers.

Dr. E. C. Seaton and Mr. W. H. Maxwell, A.M.I.C.E., have been appointed Chadwick Lecturers in Hygiene and Municipal Engineering for the session 1909–10.

THE UNIVERSITY LIBRARY.

The library at the Central Building of the University of London, South Kensington, S.W., contains 86,500 volumes and pamphlets. The nucleus of the general library was the library of the old University of London, which had been gradually accumulating since about 1839; it was transferred at the reconstitution of the University in 1900 from Burlington Gardens to South Kensington. It includes the very valuable special collections of Augustus de Morgan, George Grote, Shaw-Lefevre, and others as well as a large number of standard books of reference on various subjects. It is especially strong in mathematics, Greek and Latin classics, physiology and history, and includes important sets such as the Calendars of State Papers, Chronicles and Memorials of Great Britain and Ireland, Scottish and Irish Records, Historical Manuscripts Commission, English Historical Review, Corpus Scriptorum Historiæ Byzantinæ, Documents inédits sur l'historie de France, and the publications of the Royal Historical Society, Early English Text Society, Hakluyt Society, Royal Geographical Society, and a number of valuable philological journals and other periodical publications. The Goldsmiths' Library of Economic Literature is intended to serve as a basis for the study of the industrial, commercial and

financial history of the United Kingdom, as well as the development of economic science generally. It is admittedly the finest economic library in the world. The Physiological Laboratory Department Library is a collection of recently published reference books and periodicals on physiology, especially in connexion with the Physiological Laboratory of the University. In view of the many large public and semi-public libraries in London, the Senate wisely decided that the University library should be developed more particularly in the direction of certain subjects which were considered to require further representation, and to the needs of post-graduate students in particular. The subjects in which the University library proposes to specialize are economics and ancillary branches of study, history, bibliography, education, and physiology. It will provide students with the fullest direction and instruction as to what books exist and where they can be found, and in this connexion it has been determined to establish a central catalogue of the books in the various libraries belonging to, and connected with, the University. Since the opening of the library in 1906, considerable advance has been made towards its reorganization, and a steady increase has been made in the number of persons availing themselves of its facilities, both as a reference library where they can read, and as a lending library from which they can borrow books for home study. To house the books adequately, and to provide suitable accommodation in the way of reading rooms, the University has, during the past few years, spent a considerable sum of money, and many munificent benefactions have been received from the Worshipful Company of Goldsmiths. This, of course, leaves little for the purchase of books, or for the upkeep of sets of periodicals; the Library Committee estimate that the minimum requirements are a sum of £250 per annum for the Economic Library, and a sum of £170 per annum for the General Library, in addition to the present annual grant of £180. The University is providing these sums for the current year, but the provision which the University is at present able to make for its library is insufficient if new books are to be added which can be borrowed by those resident in the provinces where the supply of the literature they require is difficult to obtain. In the present straitened financial circumstances of the University the Senate is not in a position to carry out the scheme, and the Library Committee therefore appeal to Members of Convocation to subscribe or to make a small donation towards the upkeep of the University library. Even small sums would materially help towards this end. The General Library is open gratuitously to members of the Senate, members of Convocation, examiners, teachers, graduates and undergraduates of the University; also to persons specially recommended. A large number of books can be borrowed for home use on making personal application or by letter; this privilege is largely confined to members of Convocation and persons nominated by them.

UNIVERSITY COLLEGE.

Proposed New Chemical Laboratories.

An appeal signed by Sir Henry Roscoe, chairman of a special committee, has been issued for a sum of £70,000 to erect new chemical laboratories at University College, London. The existing laboratories were built under the direction of the late Professor Williamson in 1871, but, owing to the increase in the number of students, and in the complexity of the subject itself, these buildings have now become entirely inadequate. In Gower Place, on the north side of the present buildings of the college, a site has been found, with a frontage of about 316 ft., and an average depth of 66 ft., which is considered to be suitable in every way for the erection of chemical laboratories. Sir William Ramsay, the university professor of general and inorganic chemistry, has recently completed twenty-one years' work at the college, and it is the wish of friends and old students to see his desire for adequate and well-equipped laboratories realized as soon as possible. Subscriptions or donations, which may be paid in instalments, may be sent to the chairman or the treasurer of the new Chemical Laboratories Fund, University College, London.

ABERDEEN UNIVERSITY.

Honorary Degrees.

AT a meeting of the Senatus of Aberdeen University, held on February 9th, it was resolved to confer the degree of Doctor of Laws on the following:

Hans Driesch, Ph.D., Heidelberg.

Sir John George Fraser, Member of the Legislative Council of the Orange River Colony, Bloemfontein.

James Mackenzie, M.D., London.

James Niven, M.A., M.B., Medical Officer of Health, Manchester.

Alexander Ogston, M.D., C.M., Emeritus Professor of Surgery in the University of Aberdeen.

Hon. Sir Thomas Gordon Walker, K.C.I.E., C.S.I., Acting Lieutenant-Governor of the Punjab.

William John Watson, M.A., Rector of the Royal High School, Edinburgh.

These degrees will be conferred at the spring graduation ceremony, which takes place early in April.

UNIVERSITY OF GLASGOW.

The John Reid Prize.

THE John Reid Prize, competition for which is open to senior medical students and qualified medical men of not more than two years' standing who are still attached as students to one of the medical schools, has been awarded to Mr. John Cruickshank, M.B., Ch.B., of the Pathology Department of Glasgow University. The prize, of the annual value of £25, is for the best original research work conducted in a Glasgow laboratory. Mr. Cruickshank's thesis was entitled, The Histological Appearances occurring in Organs undergoing Autolysis. The prize, which may be awarded for one, two, or three years, has been granted to Mr. Cruickshank for two years, but a prize will be offered next year as usual in addition.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary Council was held on February 10th, Mr. Butlin, President, in the chair.

Diplomas.

Diplomas of Membership were granted to 59 candidates found qualified at the recent examination. Diplomas of the Licence in Dental Surgery were issued to two candidates, and in Public Health to twelve candidates.

Committee on Anaesthetics.

The Council approved the report of the Committee on Anaesthetics, which recommended the adoption of the conclusions of the General Medical Council, with the exception of the last five words in Clause 5. The clause in question runs thus:

> 5. That having regard to existing conditions it is also desirable in the public interest that duly qualified dental practitioners should be authorised to administer certain specified anaesthetics, such as nitrous oxide gas, for the purpose of inducing unconsciousness or insensibility to pain during dental operations, or procedures.

The reason for recommending the omission of the last five words was that, having regard to the fact that the services of a medical practitioner with special experience in the administration of anaesthetics, and equipped with the necessary appliances, are often not available, the Committee believed that it is not to the advantage of the public, or of the medical profession, that dentists should be debarred from administering nitrous oxide gas, and the other anaesthetics to be specified as employable by them, for operations performed by duly qualified medical practitioners. The Committee further recommended the Council to inform the Lord President of the Privy Council that they concur with the conclusions of the General Medical Council with the omission of the last five words of Clause 5.

Court of Examiners.

Mr. Bilton Pollard was re-elected a member of the Court, and was elected a member of the Board of Examiners in Dental Surgery, in the vacancy occasioned by the retirement of Mr. Bernard Pitts.

Central Midwives Board.

Mr. C. H. Golding-Bird was re-elected as representative of the College on the above Board.

CONJOINT BOARD IN ENGLAND.

THE following gentlemen, having been approved at the final examination in medicine, surgery, and midwifery of the Examining Board in England, have had the diplomas L.R.C.P. and M.R.C.S. conferred upon them by the Royal College of Physicians of London and the Royal College of Surgeons of England respectively:

F. S. Adams, F. C. Alton, W. B. G. Angus, C. H. F. Atkinson, A. D. E. Bayliss, H. W. Catto, I. G. Cobb, R. Cock, R. F. P. Cory, F. J. Craddock, A. K. Dalal, J. P. H. Davies, A. Dewar, F. H. Diggle, R. B. Edwards, E. L. Elliott, G. J. French, R. F. Guevara, G. Gushue Taylor, C. Hall, P. K. Hill, G. Hoffmann, J. S. Jobson, N. T. K. Jordan, T. J. Killard-Leavey, S. H. Kingston, J. M. Land, J. A. R. Lee, T. Legge, *J. Macoun, E. MacEwan, A. C. Magerey, R. T. Martin, M. C. Mason, J. H. Meers, S. F. Moore, C. W. Morris, J. F. O'Malley, W. L. Pink, B. A. Playne, E. E. A. T. Rigg, A. L. Robinson, A. C. H. Rothera, B. C. Roy, B. S. Simmonds, E. G. Stanley, E. L. Sturdee, F. S. Tamplin, L. H. Taylor, G. O. Teichmann, K. S. Thakur, A. H. L. Thomas, W. P. Tindal-Atkinson, J. M. Todesco, V. T. P. Webster, C. Weller, C. U. Whitney, J. P. Williams, J. W. Williams, N.S. Williams.

* M.R.C.S. only.

CONJOINT BOARD IN IRELAND.

THE following candidates have been approved at the examinations indicated:

FIRST PROFESSIONAL.—S. Brown, J. C. Cunningham, D. Hearne, J. J. Keyms, D. C. Kelleher, O. J. M. Kerrigan, E. C. Loughrey, F. P. B. McTavish, P. J. Murphy, J. C. Reynolds.

SECOND PROFESSIONAL.—H. J. Burke, T. Dillon, F. E. Fitzmaurice, J. P. Fitzpatrick, R. M. Gordon, R. J. Hennessy, J. M. Horan, W. J. Moloney, M. J. McCormack, H. E. O'Brien, A. A. O'Connor, A. J. Patterson.

THIRD PROFESSIONAL.—*P. V. Crowe, J. B. Barry, H. E. Clarke, J. Fitzgerald, H. D. Gasteen, M. Garry, N. T. Kelly, D. McDevitt, C. MacCormack, C. McDonnell, W. Mulcahy, J. Nally, T. N. Neale, T. J. Nunan, J. K. O'Byrne, W. O'Brien, C. H. Oliver, F. Phelan, C. Roche, H. K. Sparrow, V. White, V. Wallace, F. Webster, P. I. Wigoder.

FINAL.—P. N. Allman, A. E. Browne, R. J. Barlee, F. J. Colgan, J. C. L. Day, T. Duncan, J. F. Gibbons, S. W. Hudson, F. R. Jones, J. H. O. Martin, T. Murray, A. F. Nash, W. P. H. Parker, P. M. J. Power, W. F. Russell, M. J. Saunders, R. H. F. Taaffe, T. J. Williams.

* With Honours.

Obituary.

PETER FRANTZOBVITCH LESSGAFT, M.D.,

PROFESSOR OF ANATOMY, UNIVERSITY OF ST. PETERSBURG.

By the death of Professor Peter Frantzobvitch Lessgaft at Cairo, on December 13th, 1909, in the 73rd year of his age, Russia has lost one of her most learned teachers. On the completion of his studies at the St. Petersburg Military Medical Academy, he began his career as a lecturer at Kazan University. Later he returned to St. Petersburg, and was appointed to the Military Academy under Professor Groober. In 1885 he became Professor of Anatomy at St. Petersburg University. His personality, his capacity for work, his energy, his intense love for science, all united to give him great influence over his hearers.

To this period belong a series of valuable treatises in German and Russian, among which may be mentioned monographs on the circular muscle of the eye, on the different causes which act on the contour of the bones, and the anomalies of the human body and their frequency.

The question of physical development and its bearing on moral training interested Professor Lessgaft deeply, and he has left some works on the subject, among which are *The Relation of Anatomy to Physical Culture*, *The Foundations of Natural Gymnastics*, *The Problems of Anthropology*, and *A Guide to Physical Culture for School Children*. His last years were occupied with his great work, *The Foundations of Theoretical Anatomy*. Professor Lessgaft, who held the degree of Doctor of Surgery, was a highly skilled operator.

From the year 1880, he began to put his educational theories into practice and became one of the organizers and directors of a new type of high school. Every summer the professor visited Germany, England, France, or Switzerland, in order to study the different school systems. He gave the preference to the English schools saying that they "turned out men and women fitted for the battle of life."

Thanks to the generosity of one of his pupils, he was able to erect a building for his biological laboratory and his high school for women (later entitled "Courses for teachers and directors of physical education.") The opening of this school and the struggle to secure its independence brought Professor Lessgaft into continual friction with the Russian Government by whom he and his views were regarded with great suspicion.

Several times the school was closed, reopened, and closed again, and the professor himself was, at one time, compelled to leave St. Petersburg for two years. In 1903 he was allowed to return, but his school was still closed and all the valuable appliances and his laboratory representing the labour of many years remained useless. However, the professor busied himself with his private lectures, his directorship of various societies, his literary work, and last, but far from least, his free consultations for children.

A little, white-haired old man, with a pair of very bright, piercing blue eyes looking out from beneath shaggy brows, very quiet—almost dry—in his manner, such was the man whose name was known all over Russia—in far Siberia, on the banks of the Volga, in sunny Crimea, and bleak northern Finland.

And his study was characteristic of its inmate. A small room with two windows, a few cane chairs, a washhand stand in one corner, a large writing table literally covered with books and papers, book shelves lining the walls, and in one corner a large, low, high-backed divan; near the divan stood the pupils in a semicircle, and the professor himself opened the door into the waiting-room and signed to each waiting sufferer in turn. Quietly he bade the child undress, long and attentively he examined its whole body, feeling every bone and muscle; finally he began to to explain and analyse the case. "Please, no medicines, no corsets, no artificial supports of any kind! Nature herself will heal the injured organism, and it is our part to help her by means of fresh air, good food, and suitable movements—gymnastic movements," that was the key to the whole system.

Each defect of the organism could be remedied by means of different movements, which were to strengthen and develop the defective muscles—whether in the form of games or with different weights attached to the feet and hands.

These movements were to be carried out under the daily supervision (one hour at a time) of one of his pupils. Every two or three weeks the child and its teacher had to present themselves and report progress. Poor children who could not afford to pay for their gymnastics were attended gratis. For thousands of sickly children, now grown or growing into healthy men and women, the little old professor will always remain a loving, grateful memory.

In the autumn of 1909 he again received the official permission to reopen his beloved "high school," and with fresh energy he set to work to sketch out programmes of lectures and attend to the necessary details and arrangements. But—it was not to be.

A neglected attack of influenza was followed by inflammation of the lungs and kidneys. He who had healed so many others had not sufficiently spared himself. Very reluctantly, by the advice of his medical advisers, he set out for distant Cairo, where he arrived only to die.

CECIL ARTHUR REYNOLDS, B.A., M.B., B.CH.OXON.

MEDICAL OFFICER OF HEALTH, BOROUGH OF SHREWSBURY.

DR. CECIL REYNOLDS, Medical Officer of Health to the Borough of Shrewsbury, died in that city at the end of last month as the outcome of an attack of scarlet fever contracted during the performance of his work at the isolation hospital. He had not yet completed his thirty-eighth year, and his early death is the cause of deep regret which will find an echo in many parts of the country. He entered Keble College, Oxford, with a school scholarship, and soon afterwards was given a second one by his college. He graduated B.A. in 1894 with honours, and meantime he had distinguished himself in the world of sport, gaining his "blue" and acting as secretary to the university athletic club. The study of medicine he commenced before leaving Oxford, and continued it at St. Thomas's Hospital. Finally he became M.B., B.Ch., and also took the D.P.H. For some two or three years after graduating he occupied himself in improving his practical knowledge by holding various appointments, including those of Resident Medical Officer at the Brighton Fever Hospital, Resident Pathologist to the Sussex County Hospital, and Assistant House Surgeon at the Shropshire Infirmary. Then he gained some experience of practical health work as assistant to the late Dr. Thursfield, medical officer for the county of Shropshire; and finally, after a short interval spent in private practice in Staffordshire, was selected for appointment as Medical Officer of Health of Shrewsbury. Not long after he took up the post he was appointed Medical Officer of Health to the Education Authority. At the time of his death he had only been in office between two and three years, but the time was more than long enough to convince every one that he was singularly well fitted to the work. In no direction did he create friction, and he was particularly happy in his conduct of his school work and in dealing with the children whom he was called on to examine. He was, despite his somewhat retiring disposition, popular with all classes, and not least with his colleagues and among the officials with whom his work brought him into contact. Dr. Reynolds was married, and leaves a widow and three young children.

DR. WILLIAM SKINNER, of Ballindalloch, Banffshire, died on January 31st as the result of an accident he sustained on January 21st. About 2 a.m. on that morning he was summoned to see a patient at Advie; in the darkness he was thrown from the trap and evidently kicked by the frightened horse which become entangled in the harness. At 5 a.m. a party of workmen found Dr. Skinner lying bleeding and unconscious in the snow. He was removed to a neighbouring farmhouse and attended to by his neighbours, Dr. Sellar, Aberloud, and Dr. Findlay, Glenlivet. The injuries were so severe that little hope could be entertained of his recovery. Special advice was called in, but he only once regained consciousness. Dr. Skinner was a native of Portmahomack, Eastern Ross. He graduated M.B, and C.M.Edin. in 1882, and spent all his professional life in Ballindalloch. He was Parochial Medical

Officer for Inveravon and Knockando. He was a member of the British Medical Association. He was very much esteemed in Speyside; he gave his services ungrudgingly and often without reward to the poor, and he was never known to refuse an appeal for assistance, no matter at what hour or from what part of his wide district it was made. He was a great favourite in the neighbourhood in which he practised, and will be much missed by his many friends. A regular attendant at the meetings of the Northern Counties Branch of the Association, his colleagues will miss his kindly and genial presence at their gatherings. Dr. Skinner is survived by a widow and four children, all of tender years, to whom the sympathy of the doctor's many friends is freely extended.

Medico-Legal.

ACTION AGAINST THE INCORPORATED DENTAL HOSPITAL, DUBLIN.

An action dealing with the important principle of the power of a teaching institution to refuse to admit any given individual as a student was heard in Dublin in the King's Bench Court on February 8th. The plaintiff, Mr. Myles Keogh, who had served his apprenticeship to a dentist, was a student at the Dental Hospital, Dublin, in 1894, having apparently been admitted as such owing to a mistake on the part of the Dean, who was not empowered to admit any one until a preliminary examination had been passed. The Board of Governors on discovering the mistake returned the entrance fee paid, but the plaintiff sent it back. In 1904, after passing the necessary preliminary examination, the plaintiff again applied to be enrolled as a student and to get credit for his attendance in 1894, but his request was refused, and his fee again returned, which he again returned. In 1908, after passing a preliminary dental examination, a further application to be admitted as a dental student was made, and in reply the plaintiff received a copy of the following resolution: "That Mr. Keogh cannot be accepted as a student at this hospital, the committee having the right by their by-laws to refuse any student without assigning a cause." The plaintiff put on these words the innuendo that he was unfit and unworthy to attend the lectures and was not a proper person to be admitted a student at the hospital, and further contended that the alleged libel had been made public owing to the fact that in his absence the letter containing the copy of the resolution had been opened and read by his clerk. He accordingly sued the Governors of the Hospital to recover £5,000 damages. In defence it was contended that there was no publication of a libel, that the occasion was privileged, and that the resolution was not a libel. The Lord Chief Baron, in giving judgement, said that cases of this kind must be determined by strict rule. Following the strict rule, he held that privilege had been proved, and that there was no evidence that the publication had been with malice. He therefore would direct the jury to give a verdict for the defendants, and would let the matter be further litigated elsewhere.

WORKMEN'S COMPENSATION.

Is a One-eyed Collier Totally Incapacitated?

In a case heard at Barnsley on January 13th, His Honour Judge Dodd said the question he had to decide was whether getting coal at the face was suitable work for a man who had recently had an eye injury by an accident whilst engaged at work. His answer was that he was of opinion that it was not quite suitable employment for a man so circumstanced. Alluding to the fact that the colliery company was unable to give this applicant employment on the surface, he said: "I remember in one case, when an injured man applied for work at a colliery other than the one at which he was injured, he was told by the official to whom he applied that they had plenty of injured men of their own, and, in thus refusing him, said: 'This is a colliery we are running, not a cripples' home.'"

CONTRACTS NOT TO PRACTISE WITHIN AN AREA.

An inquirer resident in the United States of America asks "what sort of clause" is to be recommended in a deed of partnership to prevent the incoming partner, after being duly introduced to the patients of a firm, from breaking away from the partnership and setting up for himself in the neighbourhood.

*** In this country such conduct would be restrained by a clause in the partnership deed, whereby the incoming partner covenanted on leaving the partnership not to practise his profession within a certain distance from the place where the partnership business was carried on, for an agreed limit of time, under a specified monetary penalty. But our correspondent would be wise to consult a local lawyer, as the law in the United States may differ from the law in England, and such a covenant might not be enforceable there.

Public Health AND POOR LAW MEDICAL SERVICES.

REPORTS OF MEDICAL INSPECTORS OF THE LOCAL GOVERNMENT BOARD.

Axbridge Rural District.—The rural district of Axminster, in the county of Somerset, which has a population approaching 25,000, adjoins the town of Weston-super-Mare, of which some of its parishes may be considered suburbs. In certain portions of the district there appear to be difficulties connected with the provision of an adequate water supply, and last year the district council asked for the assistance of the Local Government Board in the matter. Dr. Reginald Farrar was deputed to make inquiries into this particular question, and at the same time to investigate the general sanitary administration of the district. As a result he has reported in terms which show that it compares favourably with other rural localities. He recommends the adoption of a comprehensive scheme of water supply for five parishes, where there is living an aggregate population of nearly 6,000 persons. Some of these parishes could be supplied by the Bristol Waterworks Company, and one could obtain water from the mains of the Weston-super-Mare Urban District Council. Other recommendations include the adoption of building by-laws; the protection of wells from pollution; the provision of complete systems of sewerage and sewage disposal for the larger villages of the district; the systematic collection of household refuse in certain localities, and the provision of a properly equipped isolation hospital. This is the first report issued from the medical department of the Local Government Board in which the compound word "by-law" has been correctly spelt. With the dropping of the superfluous "e" we may anticipate the throwing over of other antiquated methods.

Easington Rural District.—The colliery districts in the county of Durham have received a considerable amount of attention at the hands of the Local Government Board during past years. The cause has usually been inactivity on the part of a local sanitary authority by the county council, which has on more than one occasion made formal complaint under Section 299 of the Public Health Act, 1875, that a sanitary authority has made default in carrying out its statutory duties. Such a complaint was made with respect to the rural district of Easington, where there is an estimated population of 54,544 persons living in 10,371 houses. The report of Dr. R. W. Johnstone, one of the medical inspectors of the board, upon the sanitary circumstances of the district, has recently been issued; it discloses conditions so unsatisfactory as to make it difficult to reconcile the facts which are set out in the first fourteen pages of the report and the nine recommendations on the last page with the statement of the inspector that "in general it does not appear that the council have been inactive in the sanitary administration of their district. They have devoted considerable attention to the water supply, sewerage, excrement disposal, and housing of their district." The activity of the council with respect to the housing conditions existing in the district must have been of an extremely limited character, for Dr. Johnstone states that during the six years ending 1908 the county council dealt, under the Housing of the Working Classes Act, 1890, with no fewer than 802 houses in the rural district, with the result that 348 were closed, 225 were made properly habitable, and 178 were improved, while 51 were still being dealt with. No opinion is expressed in the report as to whether the county council was justified in its complaint of the default of the rural district council, but perhaps Dr. Johnstone considers that the serious conditions disclosed on nearly every page constitute a justification.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

City of Aberdeen.—In his report for 1908 Dr. Matthew Hay gives an account of an outbreak in November of that year of gastro-enteritis which was shown to have had its origin in a milk supply from outside the town. All the cases recovered, though the severity of the illness varied in different cases. In the majority the patient was confined to bed for two or three days, and in a few instances for a week. There was severe headache, shivering, vomiting, backache, diarrhoea, and a slight rise of temperature. In a few instances cramps in the legs were complained of. Bacteriological examination of the stools and urine of a few cases yielded no definite results. The persons affected were confined to the customers of a particular dairyman who obtained his supply from three different farms, on one of which it was ascertained there were cases of illness of a similar character. The incubation period appeared to be extremely short, at most only two or three days. The supply of milk from the farm in question was stopped, and the outbreak, which had made its appearance with an explosive suddenness, rapidly subsided. In an appendix to his report Dr. Hay gives an account of the inquiry which he made in 1907 and 1908 into the question of infantile mortality in Aberdeen. He expresses the conviction that if the inhabitants of the city are determined to put an end to the present great waste of infant life, and if mothers will act upon the advice now freely available to them through the health visitors and the band of ladies who co-operate with them, nearly the whole of the waste that is not due to sheer poverty should disappear within a very few years. The infantile mortality rate in 1908 was 129 per 1,000 births compared with an average rate of 143 in the previous ten years.

Medical News.

WE are asked to state that Dr. Hugh Ker and Dr. Crosse, of Balham, have resigned their appointments as chief medical officers to the South-West London Tradesmen's Provident Society.

DR. JAMES J. THOMSON, Edinburgh, who graduated with first-class honours, gained the Beaney Prize, and acted in the Royal Infirmary as assistant to Professor Greenfield, has been appointed superintendent of the Tuberculosis Institution at Tranquille, Victoria, British Columbia.

THE Mary Kingsley Medal of the Liverpool School of Tropical Medicine, which is presented from time to time to some person distinguished in research in tropical medicine and allied subjects, has been awarded to Professor G. H. F. Nuttall, F.R.S., Quick Professor of Biology in the University of Cambridge.

A LECTURE on the aesthetics of anaesthetics will be delivered in the clinical theatre of the London Hospital by Dr. Frederic W. Hewitt, M.V.O., consulting anaesthetist to the hospital, on Friday next, at 2 p.m. The lecture is free to students of the University of London, and to medical men on presentation of their cards.

THE Local Government Board has issued circulars to clerks to parish councils and chairmen of parish meetings for the election of parish councillors, calling attention to the fact that the term of office of parish councillors being three years, the existing councillors will go out of office on April 15th next. Directions are giving for the due holding of parish meetings for the election of councillors.

THE lectures at the Royal College of Surgeons of England for the year 1910 began on Monday last, when Professor A. Keith gave the first of four lectures on the anatomy and relationships of the negro and negroid races. On Wednesday and Friday next Mr. W. Sampson Handley will give two lectures on the surgery of the lymphatic system; on February 28th and March 2nd Dr. Peter Thompson will discuss some embryological problems in relation to medicine. On March 4th and 7th Mr. R. H. Paramore will lecture on the functions of the pelvic floor musculature, and its relation to, and co-ordination with, the other musculatures enclosing the visceral mass; on March 9th and 11th Dr. C. Bolton will lecture on the pathology of gastric ulcer; and on March 14th and 16th Mr. George Coats on congenital abnormalities of the eye. On March 18th Mr. Sydney Scott will give a lecture on the physiology of the human labyrinth. All the lectures begin at 5 p.m.

THE annual dinner of the West London Medico-Chirurgical Society was held on February 16th at the Wharncliffe Rooms, Hotel Great Central, London, with Dr. Neville Wood in the chair. The toast of "The Imperial Forces" was proposed by Mr. Swinford Edwards, and was responded to by Inspector-General Porter, the Medical Director-General of the Navy, who said that the medical service must be ready to expand sufficiently in time of war, and the civilian members of the medical profession would be looked to for help in that direction. He concluded by appealing to those present to join the medical branch of the Navy League. Sir William Church submitted the toast of "The West London Medico-Chirurgical Society," and congratulated those present on the fact that the number of members exceeded 600. There had been a feeling that the Royal Society of Medicine was hostile to such societies, but that was an entire mistake. After a reference to the post-graduate studies introduced into the metropolis at the West London Hospital, he ended with a sympathetic reference to the lamented death of Mr. Keetley, but for whom the society would probably never have come into existence, or would not have been founded so early. This toast was replied to by the Chairman, and his speech was followed by the interesting ceremony of a presentation to Dr. Leonard Dobson, late editor of the journal of the society, and to Mr. J. Pardoe, the late editorial secretary, of silver candelabra and salvers. These gentlemen rendered their thanks in suitable and short speeches. The duties of editorship had been carried out since the resignation of Dr. Dobson by Mr. Herbert Chambers. Mr. W. McAdam Eccles was entrusted with the toast of "Kindred Societies and Guests," which was replied to by Mr. L. A. Bidwell, President of the Chelsea Clinical Society, who finished his speech by proposing the health of the Chairman. After that gentleman had acknowledged the toast, the Hon. Secretary, Dr. W. E. Fry, was congratulated warmly on the success of the dinner.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

H. W. desires to hear of a home in the southern counties where a lady of 69, late governess, can spend the rest of her days. She has only a small annuity, and cannot afford more than 21s. per week.

EWING asks for suggestions in the treatment of a white covering on the mucous membrane of the cheek, extending on to the gums and lips, and due to an oïdium. Izal, mercury perchloride, silver nitrate, sulphurous acid, and rectified spirit, etc., have been tried without benefit. Hydrogen peroxide gives temporary feeling of relief.

TATTOOING.

A. B. asks for information as to the correct pigment for tattooing a white scar on a patient's cheek; the uninjured part is high-coloured. Any details as to method would be acceptable.

MALTHUSIANISM AND ITS PHYSICAL RISKS.

A MEMBER writes: In the JOURNAL of February 5th, commenting on the lowered birth-rate and its causes, you suggest that "the doctor could do much by his private teaching to impress the evils of Malthusianism from the point of view of the community as well as the individual whenever the opportunity presents itself." While this is doubtless quite reasonable, yet it is obvious that the subject is a somewhat delicate one to approach unless questions arise on the part of the patient, and, even when this is the case, it is not easy to convince people that the physical, moral, and spiritual dangers of artificial sterility are beyond question from the point of view of the individual. I shall be glad if any of your readers will be good enough to indicate where one can find reliable medical evidence that preventives of conception are attended with physical risks and of what these mainly consist.

ANSWERS.

THE STANDARDIZATION OF A TYPHOID VACCINE.

EASTERN.—In order to prepare an emulsion of typhoid bacilli in physiological saline fluid containing three billions of bacilli per c.cm. it would be necessary to centrifuge the first emulsion made from the agar-agar tube and to pipette off as much of the fluid as possible, in order to leave a thick cream behind. Unless this is done the emulsion may prove too weak. Wright's method is to mix the emulsion with normal blood and to count the ratio between the bacteria and blood cells, assuming that five million blood cells are present in each c mm. of blood. A measured quantity of the emulsion of

typhoid bacilli should be diluted 1,000 times with saline fluid, and a measured quantity of blood diluted with this diluted emulsion. From the mixture smears are made, and the proportion between the bacilli and the blood cells is determined by counting a number of fields under the microscope. It is wise for this purpose to use a square in the eye-piece, in order to limit the field sharply. The original emulsion would contain 600 times as many bacilli as there are blood cells per unit, provided that the desired strength were hit off correctly. The necessary correction can be made by adding fresh saline fluid if this is not so. Thus, if on diluting the original emulsion 1,000 times, it is found that the mixture with blood contains two bacilli to each blood cell, there would be six billion bacilli per c.cm., and the addition of an equal emulsion would yield an emulsion of the desired strength.

HEADACHE AFTER SLEEP.

DR. W. G. WALFORD (South Hampstead) writes, with reference to an inquiry as to a gouty patient suffering from headache after sleep, that his personal experience leads him to suggest that it might be due to wearing neck clothing which is too tight. Dr. Walford's opinion is that attention is often not given to the increase in the girth of the neck, and people continue to wear neck-gear of the same size as when they were younger and slighter. He recommends that the patient should have all clothing for day or night worn above the clavicles let out at least half an inch; further enlargement would probably be necessary after about three months.

RATEABLE VALUE OF DWELLING HOUSE.

MEDICAL TAXPAYER inquires what percentage of the rent is the legal maximum assessment for levying local rates and taxes. He desires to know the rateable value appropriate to a rental of £75.

*** If the rent of £75 be on a yearly or three-yearly tenancy, the owner being liable to repairs, the rateable value should be £63, or one-sixth less than the full rental value. If the rent be a lease rent, and the tenant liable for repairs in addition to the rent, the full rental value would be taken as about 10 per cent. above the lease rent, or say £82, and the rateable value should be £69. Various considerations may, however, affect these figures. These will be examined in an article in an early issue dealing with the question of valuation, and the course to be adopted in appealing against excessive assessments.

LETTERS, NOTES, ETC.

DOCTORS ON SKIS.

DR. ARTHUR G. WILKINS (Glenridding-on-Ullswater, Penrith) writes that he has used the Norwegian ski occasionally in his district during the past four winters as a sporting means of locomotion. During the first week of February this year he found the seven-foot slender plank the only possible means of progress on professional business in a large part of his sphere of influence.

CANCER HOUSES AND DRY ROT.

MR. W. ERNEST HAZELL, F.R.I.B.A. (London) writes: There appears to be a growing belief among the medical profession that cases of cancer are more frequent in certain houses than in others, and, in fact, cases are of such frequent occurrence in some houses that one is almost justified in calling certain houses cancer houses. If this be the case I suppose the only two lines of argument one can follow are: (1) That in some way the second or following case is caused by the first or infecting case, or (2) that the house itself is in some way the cause and origin of both the first and following cases. In the opinion of Behla, I believe, the disease occurs generally in houses with damp basements and cellars. Damp basements and cellars generally mean dry or wet rot in the ground-floor timbers of the house. Can, therefore, cancer be in any way connected with dry or wet rot in the structural timbers of a house? I am led to raise this question by the following case. Some seven or eight years ago I was called in to alter and decorate a house in which two deaths from cancer had just occurred. I found in the house a small damp and dark cellar, in which was an old wood floor which was completely ruined by rot, and, as far as I remember, the cellar was used as a potato store. I put forward the theory for what it is worth, coming from one with no technical knowledge, that the micro-organism of the rot which had affected and destroyed the timber, after having exhausted this source of nourishment, would develop a spore formation which would attack the potatoes, and in the spore formation would not be destroyed when the potatoes were cooked. The same argument would, of course, hold good for any type of food stored in contact with the micro-organism of dry rot, provided that it furnished a suitable nutrient medium for the organism. If this were the case, the suggestion might be made that every one who ate the infected potatoes or other food would develop the disease. The answer to this may be that not every one is susceptible to the infection, as is the case with tuberculous infection.

PULMONARY TUBERCULOSIS TREATED BY CONTINUOUS ANTISEPTIC INHALATION.

DR. T. GERALD GARRY (Cairo) writes: I can testify, after a large experience, to the utility of the form of treatment recommended by Dr. Lees in the JOURNAL of December 11th, 1909. I have used practically identical treatment in cases of pulmonary tuberculosis for twelve years, and would like to emphasize the fact that since I discarded other forms of inhaler for the extremely simple one originally recommended by Dr. Burney Yeo the results obtained have been, without doubt, more satisfactory. In one particular case, which was considered hopeless by four leading physicians, continuous inhalation for six weeks of pure creosote removed all the symptoms, and now, after an interval of twelve years, the patient continues in excellent health.

THE "AUDIO"—A DISCLAIMER.

MR. C. ERNEST WEST, Aural Surgeon, and Mr. Sydney Scott, Assistant Aural Surgeon to St. Bartholomew's Hospital, write: Our attention has been called to an advertisement in certain papers of an apparatus, called the "Audio," said to be designed for the electrical treatment of nerve deafness, and described as "combining in a simple form the treatment as applied at St. Bartholomew's Hospital." We wish to disclaim all association with this apparatus and with the claims made for it. No such treatment is in use in the Aural Department of St. Bartholomew's Hospital. Some years ago trials were made of the effects of electrical treatment on various forms of deafness and were discontinued as being of no therapeutic value.

LIVERPOOL WORKHOUSE HOSPITAL.

DR. FORREST BRECHIN (Liverpool) writes: In the number of the JOURNAL for February 5th there is an advertisement (p. 58) for an assistant on the medical staff here which is apt to mislead. I am at present senior resident here, and, on account of various circumstances and the anomalous conditions of the appointment which have led to my voluntary resignation, each of my three resident colleagues, on being approached on the matter, declined to succeed me, and I think that it is only fair that intending applicants should know this before definitely applying. In the usually accepted sense of the term this is not a general hospital but a workhouse with well over 2,000 inmates, with hospital wards containing upwards of 1,000 beds, and the duties of the resident assistants (there are two visiting medical officers), while chiefly in connexion with the hospital wards, are largely augmented by workhouse routine in the various divisions. The hospital division to which the advertisement refers is under the charge of the senior medical officer, and is called "the surgical," but comprises cases in the following categories—surgical, medical, maternity, mental, lock, cleansing, etc.—a total generally varying between 350 and 450 patients. It must be obvious that £100 per annum is not adequate remuneration for these duties, as the two further sums of £20 are for extra and well-defined duties (see advertisement). For more particulars regarding the institution one may refer to an article by Sir H. Burdett in the *Hospital* of January 1st, 1910. I shall be pleased to give you, or any intending applicant, any further information you may desire.

A TESTIMONIAL.

Dear Sirs, With heartfelt thanks to you
My bosom thrills;
By these few lines I hope to show
The debt of gratitude I owe
Your splendid pills.

My uncle caught a cold, he was
A millionaire,
Your pills he'd noticed advertised,
And so he took some as advised.

* * * * *

I am his heir!

CHARLES VIVIAN.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

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NOTE.—It is against the rules of the Post Office to receive *poste Restante* letters addressed either in initials or numbers.